

**NEW**

## picoPak™ Signal Conditioning and Isolating Terminal Blocks

### Introduction

picoPak™ is a family of single channel signal conditioning and isolating modules featuring ease-of-use, low cost per channel, intelligent I/O signal processing and high accuracy.

The picoPak family includes a diverse range of modules, allowing users to select the version which meets their specific signal conditioning needs. Selections include voltage, current, frequency, thermocouple, RTD or potentiometer as input signals and provide voltage or current output signals.

All modules can be easily configured by the user in the field. Factory pre-configured and custom-configured modules are also available for plug and play applications, per user specifications.

### Features:

- Single channel signal conditioning
- Wide operating temperature range
- Accuracy of 0.05% across output range
- Custom configurable
- Only 12mm wide
- UL and CSA approved, CE marked
- Compliant to CE European EMC Directive (89/336/ECC)

**For more information**

**contact:**

**Weidmuller Inc.**

USA:

Telephone (800) 849-9343

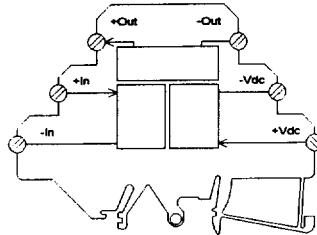
Faxsimile (804) 379-2593

ISO 9001  
A2025



# picoPak I and V

## Schematic diagram



picoPak I/I, I/V, V/I, V/V

## picoPak Ordering Information

Input Type & Range		Output Current		Output Voltage			
		0 to 20mA	4 to 20 mA	0 to 5 V	0 to 10 V	+/- 5 V	+/- 10 V
Current		picoPak VI		picoPak IV			
0 to 1 mA		998294	998298	998302	998303		
0 to 5 mA		998295	998299		998304		
0 to 20 mA		998296	998300		998305		
4 to 20 mA		998297	998301		998306	998410	998307
+/- 10 mA			998406		998408		
+/- 20 mA			998407		998409		
Voltage		picoPak VI/V		picoPak V/V			
0 to 10 V		998311		998315			
0 to 60 mV		998309		998313			
0 to 5 V		998310		998314			
+/- 10 V		998312			998317	998318	
+/- 10 mV		998411			998413	998415	
+/- 300 mV		998412			998414	998416	

## Rated Data

### Input

Type	
Signal Ranges	
Impedance	
Circuit protection	

Current	Voltage
±10mA to ±20mA	±10mV to ±10V
Consult Factory for Custom Configuration	
82.5Ω max.	100kΩ min.
220Vac RMS continuous/reverse power, ANSI / IEEE C37.90.1-1989 Transient Protection	

### Output

Range	
Load	
Accuracy (after calibration)	0.05% of full scale nominal, 0.2% max. for voltage output
Protection	short circuit protected

Current	Voltage
0-20mA, 4-20mA	0-5V, 1-5V, ±5V, 0-10V, ±10V
600Ω max.	2kΩ min., 4kΩ min.
0.05% of full scale nominal, 0.2% max. for voltage output	

### General

External supply voltage	
External supply current	

active	25mA to 30mA (voltage output)
alarm	

Response time, 90% span	60Hz Standard, 150 ms
Thermal drift	0.01% full scale/°C

RFI immunity	≤1% full scale (20-500MHz @ 10V/m)
Filtering	120dB

Isolation	Input to output to power
Temperature range	Operating Storage

1500Vac RMS, 3 port	
-40°C to +75°C	

Dimensions (W x L x H)	
Wire range	0.5 to 2.5mm² / 26-12AWG

-40°C to +85°C	
12mm x 88mm x 68mm	

Screw tightening torque	Nm (lb.in.)
Housing	Material

polyamide nylon 6.6	
UL 94V-2	

Weight	
Agency certifications	

42g	
UL	CE

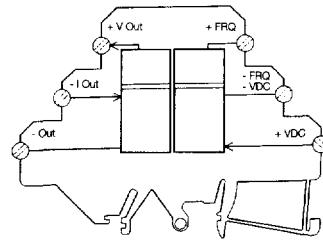
## Accessories

Configuration Kit (cable and software)

998471

# picoPak FRQ

## Schematic diagram



picoPak FRQ/I, FRQ/V

## picoPak Ordering Information

Input Type & Range	Output Current	Output Voltage	
Frequency	picoPak F/I	picoPak F/V	
1 to 25 kHz	998417	0 to 5 V	0 to 10 V
1 to 200Hz	998418	998423	998428
1 to 2 kHz	998420	998424	998429
1 to 10 kHz	998421	998425	998430
1 to 20 kHz	998422	998426	998431

## Technical Data

Input	Frequency				
Type	1-200Hz, 1-2KHz, 1-10KHz, 1-20KHz, 1-25KHz, consult factory for other ranges (5VDC input)				
Possible ranges	220VAC RMS continuous/reverse power, ANSI / IEEE C37.90.1 - 1989 Transient Protection				
Circuit protection	$\geq 100\Omega$				
Impedance					
Output	Current	Voltage			
Range	4-20mA	0-5V	0-10V		
Load	600 $\Omega$ max.	2k $\Omega$ min.	4k $\Omega$ min.		
Accuracy (after calibration)	0.05% of full scale nominal, 0.2% max. for voltage output				
Protection	short circuit protected				
General					
External supply voltage	15VDC to 30VDC				
External supply current	25mA to 45mA (current output)				
Status LEDs	GREEN	25mA to 30mA (voltage output)			
	RED				
Response time, 90% span	active				
Thermal drift	alarm				
RFI immunity	60Hz Standard, 150 ms				
Filtering	0.01% full scale/ $^{\circ}$ C				
	$\geq$ % full scale (20-500MHz @ 10V/m)				
NMR (50 or 60Hz)	120dB				
Isolation	90dB				
Input to output to power	1500VAC RMS, 2 port				
Temperature	Operating				
	-40 $^{\circ}$ C to +75 $^{\circ}$ C				
	Storage				
Dimensions (W x L x H)	mm (in.)	-40 $^{\circ}$ C to +85 $^{\circ}$ C			
Wire range	12mm x 88mm x 68mm (.47" x 3.46" x 2.68")				
Screw tightening torque	Nm (lb.in.)	0.5 ... 2.5mm <sup>2</sup> / #26 ... 12AWG			
Housing	Material	.6 (5.31)			
	Flammability	polyamide nylon 6.6			
Weight	UL 94V-2				
Agency certifications	42g				

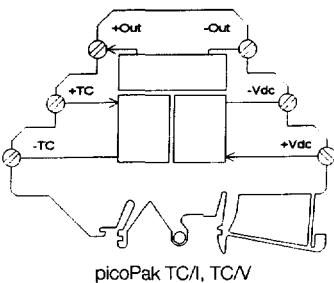
## Accessories

Configuration Kit (cable and software)

998471

# picoPak™ TC

## Schematic diagram



## picoPak Ordering Information

Signal	Output Range*		
Input Type & Range		4 to 20 mA	0 to 10 V
Type	picoPak TCI	picoPak TC/V	
E: 0 to +1000°C	998337	998347	
J: -200 to +760°C	998338	998348	
J: 0 to +500°C	998339	998349	
J: -100 to +500°C	998340	998350	
K: 0 to +1200°C	998341	998351	
K: -100 to +1200°C	998342	998352	
K: -100 to +20°C	998343	998353	
N: -100 to +1300°C	998344	998354	
T: -100 to +400°C	998345	998355	
T: 0 to +200°C	998346	998356	

## Rated Data

Input	Thermocouple				
Type	E: -200°C to 1000°C; J: -200°C to 760°C; K: -200°C to 1370°C;				
Sensor types	N: -200°C to 1300°C; T: -200°C to 400°C				
Circuit protection	Consult Factory for Custom Configuration				
Calibrate in Background	220Vac RMS continuous/reverse power, ANSI / IEEE C 37.90.1 - 1989 Transient Protection				
Output	Current	Voltage			
Range	0-20mA, 4-20mA	0-5V, 0-10V			
Load	600Ω max.	2kΩ min, 4kΩ min.			
Burnout detection	(Upscale) Factory Set				
Accuracy (after calibration)	0.05% of full scale nominal, 0.2% max. for voltage output				
Cold junction/linearity error	0.6°C / 0.1°C				
Protection	short circuit protected				
General					
External supply voltage	15Vdc to 30Vdc				
External supply current	25mA to 45mA (current output)				
Status LEDs	GREEN	25mA to 30mA (voltage output)			
	RED				
Response time, 90% span	active				
Thermal drift	alarm				
RFI immunity	60Hz Standard, 150ms				
Filtering	CMR (50 or 60Hz)	0.01% full scale/°C			
	NMR (50 or 60Hz)	≤1% full scale (20-500MHz @ 10V/m)			
Isolation	120dB				
Temperature	Input to output to power	90dB			
	-40°C to +75°C	1500Vac RMS, 3 port			
	-40°C to +85°C	-40°C to +85°C			
Dimensions (W x L x H)	12mm x 88mm x 68mm				
Wire range	0.5 to 2.5mm² / 26-12AWG				
Screw tightening torque	Nm(lb.in)	.6(5.31)			
Housing	Material	polyamide nylon 6.6			
	Flammability	UL 94V-2			
	Service temperature	-50°C to 100°C			
Weight	42g				
Agency certifications					

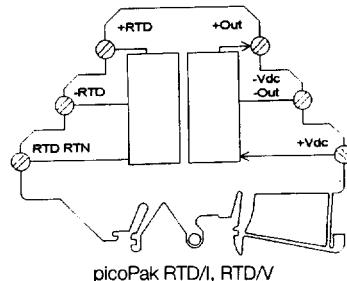
## Accessories

Configuration Kit (cable and software)

998471

# picoPak RTD

## Schematic diagram



## picoPak Ordering Information

Input RTD	Output Current		Output Voltage	
	picoPak RTD/I	picoPak RTD/V	picoPak RTD/I	picoPak RTD/V
10 Ohm Copper, $\alpha = 0.0047$ , 0 to 100°C	998319		998328	
120 Ohm Nickel, $\alpha = 0.00672$ , 0 to 100°C	998320		998329	
PT-100, $\alpha = 0.00385$ (European), 0 to 100°C	998321		998330	
PT-100, $\alpha = 0.00385$ (European), 0 to 200°C	998322		998331	
PT-100, $\alpha = 0.00385$ (European), 0 to 300°C	998323		998332	
PT-100, $\alpha = 0.00385$ (European), 0 to 500°C	998327		998336	
PT-100, $\alpha = 0.00392$ (US), 0 to 100°C	998326		998335	

## Rated Data

Input		RTD	
Type		Pt100Ω ( $\alpha=0.00385$ European, or 0.00392 US); Cu10Ω ( $\alpha = 0.0047$ ); Ni120Ω ( $\alpha = 0.00672$ )	
Sensor types		Consult Factory for Custom Configuration	
Excitation current / linearity error		150µA/ 0.1°C	
Resolution		0.05°C	
Circuit protection		220Vac RMS continuous/reverse power, ANSI / IEEE C37.90.1-1989 Transient Protection	
Calibrate in Background		Default Setting = off	
Output		Current	Voltage
Range		0-20mA, 4-20mA	0-5V, 1-5V, 0-10V
Load		600Ω max.	2kΩ min, 4kΩ min.
Burnout detection		Upscale Standard	
Accuracy (after calibration)		0.05% of full scale nominal, 0.2% max. for voltage output	
Protection		short circuit protected	
General			
External supply voltage		15Vdc to 30Vdc	
External supply current		25mA to 45mA (current output)	25mA to 30mA (voltage output)
Status LEDs	GREEN	active	
	RED	alarm	
Response time, 90% span		60Hz Standard, 150 ms	
Thermal drift		0.01% full scale/°C	
RFI immunity		≤1% full scale (20-500MHz @ 10V/m)	
Filtering	CMR (50 or 60Hz) NMR (50 or 60Hz)	120dB	
		90dB	
Isolation	Input to output to power	1500Vac RMS, 2 port	
Temperature	Operating	-40°C to +75°C	
	Storage	-40°C to +85°C	
Dimensions (W x L x H)		12mm x 88mm x 68mm	
Wire range		0.5 to 2.5mm² / 26 to 12AWG	
Screw tightening torque	Nm (lb.in.)	.6 (5.31)	
Housing	Material	polyamide nylon 6.6	
	Flammability	UL 94V-2	
	Service temperature	-50°C to 100°C	
Weight		42g	
Agency certifications			

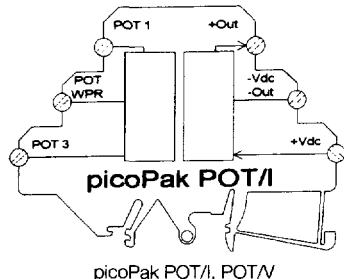
## Accessories

Configuration Kit (cable and software)

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# picoPak POT

## Schematic diagram



## Ordering data

TS32 or TS35 rail mounting (L / L)

## Type

picoPak™ POT/I

## Cat.No.

998369 500-100KΩ in/4-20mA out

picoPak™ POT/V

998370 500-100KΩ in/0-10V out

## Technical Data

### Input

Type	Potentiometer
Possible Ranges	500Ω min pot., 0-100% sweep (see Fig. 1)
Excitation	5VDC
Circuit protection	220Vac RMS continuous/reverse power, ANSI / IEEE C37.90.1 - 1989 Transient Protection
Impedance	≥1GΩ

### Output

Range	15VDC to 30VDC
Load	600Ω max.
Accuracy (after calibration)	0.05% of full scale nominal, 0.2% max. for voltage output
Protection	short circuit protected

### Current

4-20mA

### Voltage

0-10V

600Ω max.

4kΩ min.

0.05% of full scale nominal, 0.2% max. for voltage output

short circuit protected

### General

External supply voltage	15VDC to 30VDC
External supply current	25mA to 45mA (current output) 25mA to 30mA (voltage output)
Status LEDs	GREEN active RED alarm
Response time, 90% span	60Hz Standard, 150 ms
Thermal drift	0.01% full scale/°C
RFI immunity	≥1% full scale (20-500MHz @ 10V/m)
Filtering	CMR (50 or 60Hz) NMR (50 or 60Hz)
Isolation	Input to output to power
Temperature	Operating Storage -40°C to +75°C -40°C to +85°C
Dimensions (W x L x H)	12mm x 88mm x 68mm (.47" x 3.46" x 2.68")
Wire range	0.5 ... 2.5mm² / #26 ... 12AWG
Screw tightening torque	Nm (lb.in.) .6 (5.31)
Housing	Material Flammability UL 94V-2
	-50°C to 100°C
Weight	42g
Agency certifications	

## Accessories

Configuration Kit (cable and software)

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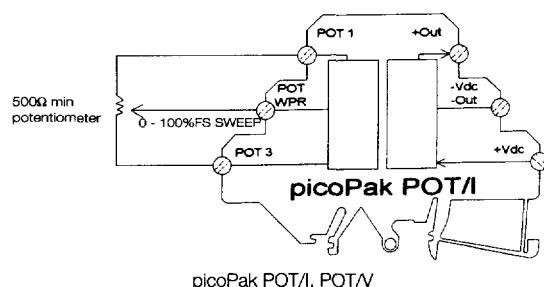


Fig. 1