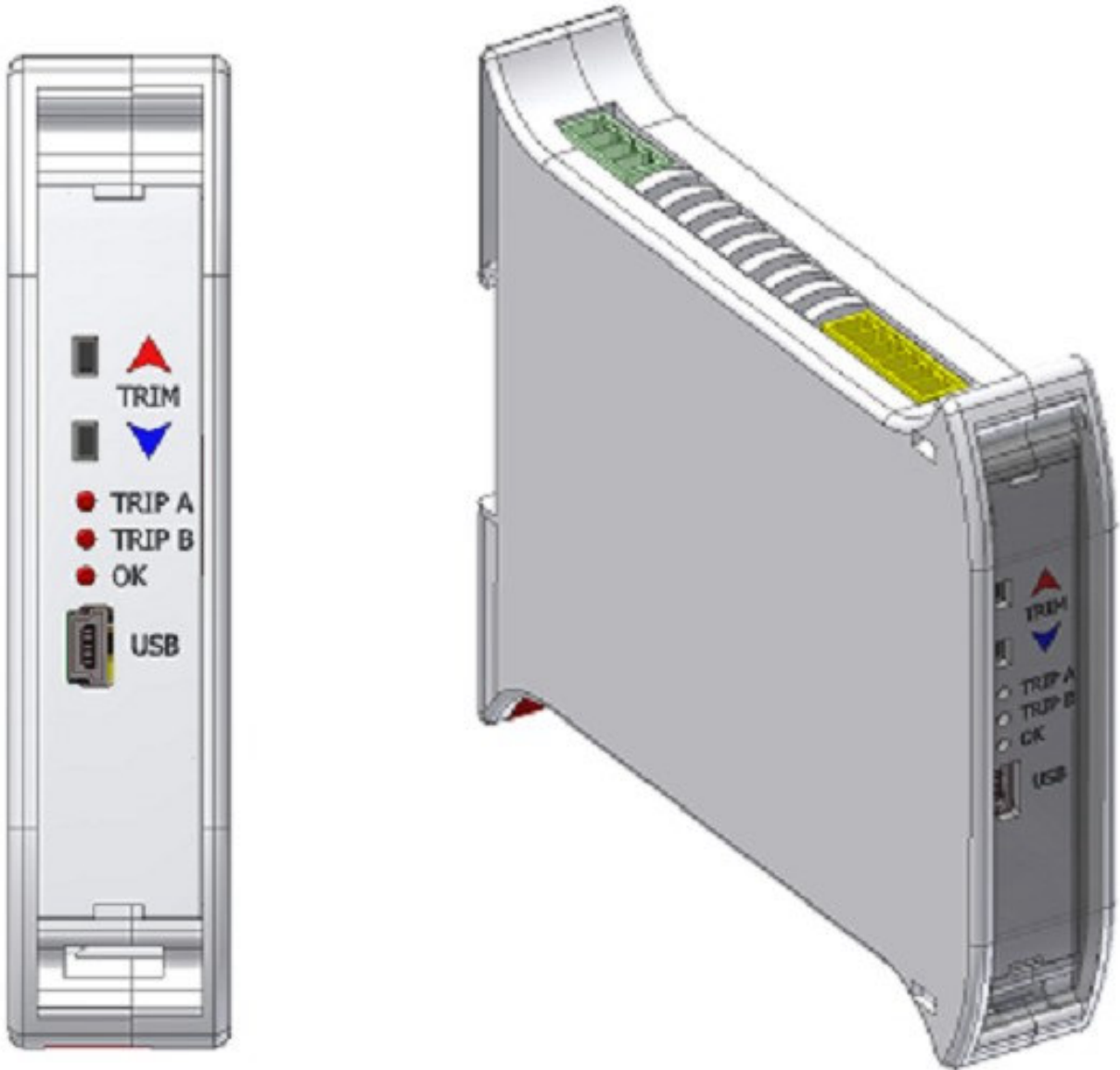


# ZTT50 DIN RAIL CONVERTER UNIVERSAL INPUT AND SUPPLY

---

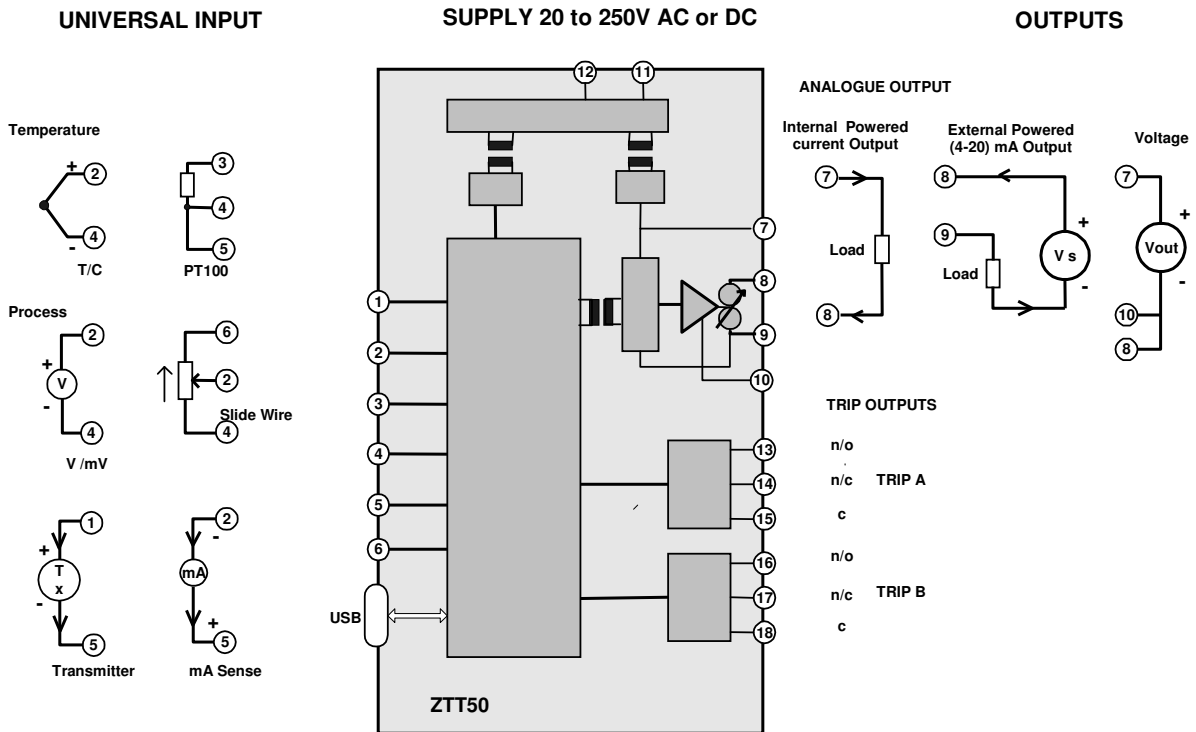
## ZTT50

- > SIMPLE CONFIGURATION VIA USB PORT
- > ISOLATED UNIVERSAL PT100, THERMOCOUPLE, mV, V, mA Input
- > ISOLATED UNIVERSAL ANALOGUE VOLTAGE/CURRENT OUTPUT
- > UNIVERSAL AC DC POWER SUPPLY
- > DIN RAIL MOUNT



# ZTT50 DIN RAIL CONVERTER UNIVERSAL INPUT AND SUPPLY

## BLOCK DIAGRAM OF THE ZTT50 UNIVERSAL DIN RAIL CONVERTER



# ZTT50 DIN RAIL CONVERTER UNIVERSAL INPUT AND SUPPLY

---

## INTRODUCTION

The ZTT50 is the new generation DIN rail mounted converters. It has been designed to accept most common process and temperature sensor inputs and provide the user analogue output signal. Isolation is provided between input outputs and supply. All temperature ranges are linear to temperature.

Designed for ease of use, our latest USB interface is fitted for quick and easy configuration. Just connect a standard USB cable between the ZTT50 and your PC. Using our free configuration software, your PC will automatically upload the existing configuration data and guide you through any changes you wish to make. To further help save time, the ZTT50 does not need to be wired to a power supply during the configuration process, it is powered via the USB interface from your PC. The following parameters are configurable :-

INPUT TYPE	CURRENT OUTPUT	TRIP OUTPUTS	DISPLAY RANGE	BURNOUT	USER TRIM
PT100	Range 4 to 20 mA or 0 to 20 mA	Trip 1 Setpoint Action High Action Low hysteresis	°F, °C	Up/Scale Down/Scale	On , Off
T/C K, J, E, N, T, R, S			°F, °C	Up/Scale Down/Scale	
Slide Wire	Scale Low High	Trip 2 Setpoint Action High Action Low hysteresis	Engineering units	N/A	
mA					
Voltage Ranges ± 50 mV ± 100mV ± 1V ± 10V					

Trip alarm indication is also provided. The input stage is provided with a excitation supply for use with two wire (4 to 20) mA devices.

# ZTT50 DIN RAIL CONVERTER UNIVERSAL INPUT AND SUPPLY

## SPECIFICATION

### INPUTS

INPUT	RANGE	ACCURACY (Note 1)	STABILITY	O/C	CJ (Note 3)	Sensor excitation (Note 4)	IMPEDANCE
<b>K</b>	(-200 to 1370) °C	0.1 % of FSR ±0.5 °C (type T 0.2 % FSR. ± 0.5 °C)	± 0.01 % of FSR	Yes	Yes	-	1 MΩ (Note 5)
<b>J</b>	(-100 to 1200) °C						
<b>E</b>	(-100 to 1000) °C						
<b>N</b>	(-180 to 1300) °C						
<b>T</b>	(-100 to 400) °C						
<b>R</b>	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR (Note 2)					
<b>S</b>	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR (Note 2)					
<b>Slide</b>	(0 to 100) %	TBA			-		
<b>P</b>	(-200 to 850) °C	± 0.1 °C / ±0.05 % of rdg	± 0.005 % of FSR		-	<450 uA	-
<b>mA</b>	(-10 to 25) mA						
<b>50 mV</b>	(-50 to 75 mV)	TBA					1 MΩ
<b>100mV</b>	(-100 to 100) mV	TBA	± 0.01 % of FSR	-	-	-	
<b>1V</b>	(-1.0 to 1.0) V	TBA					
<b>10V</b>	(-10.0 to 10.0) V	TBA					

**Key** Rdg = Reading ; FSR = Full Scale Range ; O/C = programmable open circuit sensor detect; CJ = Cold junction error

#### Notes

1. Accuracy for PT100 and T/C do not include sensor and cold junction errors.
2. Only over the range (800 to 1600) °C
3. Cold junction range (-20 to 70) °C, Accuracy ± 0.5 °C, Tracking ± 0.05 °C
4. PT100 input Maximum lead resistance 20 R, Lead effect 0.015 °C / Ω.
5. Impedance – not including 0.2 uA open circuit detect bias current effect.
6. Maximum current over load ± 100 mA.

#### ISOLATION

To output 500V to supply and trips 3750 V

### CURRENT OUTPUT

**Type** Two wire current sink; or two wire current source

	RANGES mA			Fault /Error Signal mA		
	Min	Max	Min Span	Up	Down	User
( 4 to 20 ) mA	4.0	20.0	-	22.5	3.8	(0.0 to 25) mA
( 0 to 20 ) mA	0.0	20.0	-			
USER	0.0	24.0	0.5			

#### Supply in sink mode Max loop load

(11 to 30) V dc , 24 V nominal  
Sink mode loop load of 600 R @ 24 V  
Source mode 550R

#### Response time

< 500 ms to reach 95 % of final value ; Start up time < 3 s

#### Calibration Accuracy

± 5 uA

#### Loop Effects

Loop ripple 0.03 % of FSR; Supply sensitivity 0.05 uA / °C ; supply ripple rejection < ± 5 uA error @ 1 V rms 50 Hz ripple

#### Protection

Reverse connection and over-voltage protection. Max over voltage current 100 mA.

#### Isolation

To input 500V; to supply and trip 3750V

#### User Trim

Push button user trim at both zero and span

# ZTT50 DIN RAIL CONVERTER UNIVERSAL INPUT AND SUPPLY

## VOLTAGE OUTPUT

	RANGES V			Fault /Error Signal V		
	Min	Max	Min Span	Up	Down	User
( 0 to 10 ) V	0.0	10.0	-	11.5	0	(0.0 to 13)
USER	0.0	12.0	0.5			

**Recommended Load** > 500K $\Omega$  Lower loads may effect output, error can be trimmed using user trim.

**Response time** < 500 ms to reach 95 % of final value ; Start up time < 3 s

**Calibration Accuracy**  $\pm$  TBA

**Isolation** To input 500V; to supply and trip 3750V

**User Trim** Push button user trim at both zero and span

## SUPPLY

**Range** 20 to 250 V DC, 20 to 250 V AC 50/60 Hz

**Power** 5 W max

**Protection** internal fuse

**Isolation** Supply to any port 3750 V

## GENERAL

**Isolation** Input to output tested at 500 V dc.

**Ambient** operating (-20 to 70)  $^{\circ}$ C (10 to 95) % RH non condensing. Storage (-40 to 85)  $^{\circ}$ C

**Approvals** CE tested to BS EN 61326 BS EN 61010\_1

## MECHANICAL DETAIL

ORDER CODE : ZTT50