

## WAVE TTA – one module fits all ...

In the case of signal processing this is a big benefit. The maintenance engineer who hasn't got the right spare isolator or transmitter, and has to run part of the plant on manual control for a day or two before the replacement arrives understands this. It wastes his time and money. So Weidmüller have designed a signal processor with unique flexibility.

In one module the Wave TTA is an intelligent signal

- Isolator
- Convertor
- Transmitter
- Lineariser
- Trip-amplifier

The new Wave TTA is a „universal“ Transmitter Trip-Amplifier. It is part of Weidmüller's well-established WAVESERIES family of analogue signal conditioners, which are widely used in process and factory automation applications.

The TTA is unique. It has a combination of high performance and exceptional configurability. Designed for process industry applications, the TTA will work accurately and stably over a wide ambient temperature range, and over a wide supply voltage range, and with most types of sensor inputs. For 2 wire current transmitters 24 V DC power is provided. Alternatively the TTA can be a passive input for the current source.

Most commonly used temperature sensors and DC inputs are accepted, and the TTA also allows the user to define his own characteristic, so special sensor types and linearisation can easily be accommodated.

To help simplify installation and loop commissioning, test terminals are provided to permit input and output signal checks without removing cabling.

For linearised and/or isolated analogue outputs, the user has a choice of standard or rangeable DC milliamps and voltage ranges. These can be set as either direct or reverse acting. The user can also select upscale or downscale output in the event of a sensor break or an open circuit in the input.

The TTA provides 2 independently settable changeover-relay outputs, for use as high and low level alarms or control points.

Configuring the versatile TTA to change input and output parameters is simple, and performed from a computer via an interface (CBX200 USB).

Powering the TTA is flexible too. When the auxiliary supply is anything between 18 and 264 V (AC or DC), one module can take it.

Physically, the TTA comes in a black WAVESERIES housing with a flammability class V0 acc. UL 94, for mounting on TS35 DIN rail. Pluggable connectors, allow screw or tension clamp wiring. A screwdriver-releasable front flap gives access to the configuration interface socket.



**Universal input signals**

- Temperature signals (such as RTDs), One module integrates thermocouples and potentiometers, frequency transmitter, DC voltage signals and DC current signals.

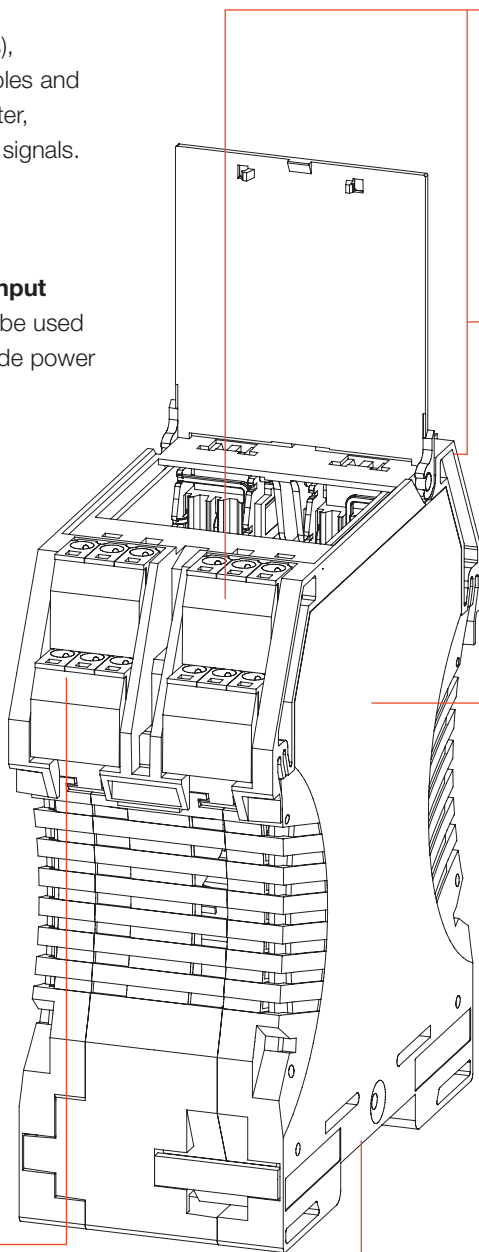
**Current source or loop powered input**

- For DC current inputs the TTA can be used with either a passive input, or provide power for a two-wire transmitter.

**Wide AC/DC power input (18-264 V AC/DC)**

**User-definable characterisation**

- If none of the standard input linearisation options suit the sensor, a special curve can easily be created.



**Inputs & outputs configurable via computer**

- The range of configurability of the TTA is remarkable – and made easy using TTA SET software, in conjunction with the CBX200 USB interface.

**Both analogue and relay outputs**

- In one module the TTA integrates adjustable alarm or control outputs from mechanical relays, as well as it's proportional analogue output.

**Wide ambient temperature range (-40 to 70 °C)**

- Mounting the TTA outside in the field is no problem. It's ambient temperature range means it can also be field enclosure mounted.

**High accuracy and temperature stability**

- The Wave TTA offers performance minimizes losses for data acquisition systems, with it's output accuracy typically < 0,1 %, and temperature stability < 0,01 %/K

**Milliamp signal testing without removing cables**

- The current and voltage inputs can be tested using a supplemental test contact without loosening the existing wiring.

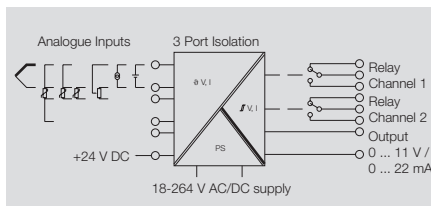
**UL Class I Div.2 and ATEX Zone 2 approvals**

**WAVESERIES – Universal signal converter and trip amplifier, configurable**

**WAVE TTA**

- Inputs and outputs can be configured by PC with TTA-SET, download at [www.weidmueller.com](http://www.weidmueller.com)
- Universal input signals
- Loop-powered or passive input
- Pluggable connection terminals

**WAS6 TTA / WAZ6 TTA**

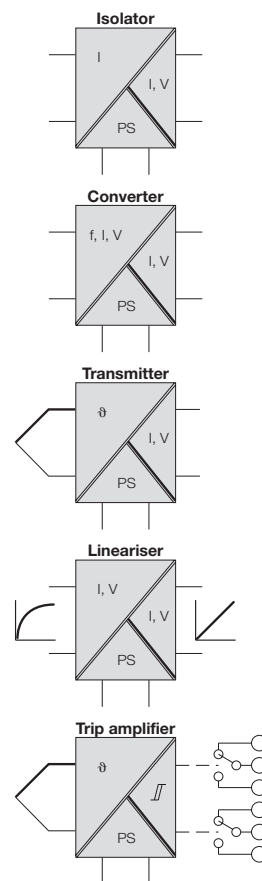


**Technical data**

<b>Input</b>	
Sensor	
Potentiometer	
Resistance	
Input frequency	
Input voltage	
Input current	
Sensor supply	
<b>Output analogue</b>	
Output voltage	
Output current	
Load impedance, voltage/current	
Signal output	
Transmit function	
<b>Output digital</b>	
Type	
Switching voltage AC, max. / DC, max.	
Continuous current	
<b>General data</b>	
Supply voltage	
Power consumption	
Accuracy	
Temperature coefficient	
Ambient temperature / Storage temperature	
Step response time	
Humidity	
Approvals	
<b>Insulation coordination</b>	
Standards	
EMC standards	
Rated voltage	
Impulse withstand voltage	
Pollution severity	
Overvoltage category	
Clearance & creepage distances	
Insulation voltage	
<b>Dimensions</b>	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Length x width x height	mm
<b>Note</b>	

Thermocouples: B, E, J, K, L, N, R, S, T (IEC 60584), PT100, PT1000, (EN 60571) Ni100, Ni1000, (JIS1604), Cu10, Cu25, Cu50, Cu100 (DIN 43760) 2-/3-/4-wire	
100 $\Omega$ ...100 k $\Omega$	
10 $\Omega$ ...5 k $\Omega$	
2 Hz...100 kHz	
-200...500 mV (min. 4 mV span), -20...50 V DC (min. 0.5 V span)	
-20...50mA (min. span 0.4 mA)	
24 V DC / 22 mA	
Adjustable between -10...+10 V (min. span of 2.5 V)	
Adjustable between 0...20 mA (min. span of 5 mA)	
> 10 k $\Omega$ @ 0...10 V / > 20 k $\Omega$ @ -10...+10 V / < 700 $\Omega$	
direct or inverted	
Linear, $x^{1/2}$ , $x^{3/2}$ , $x^{5/2}$ or user-defined curve (101 points)	
2 x 1 CO contact (hard gold-plated)	
250 V / 30 V	
3 A AC / 2 A DC	
18...264 V AC/DC	
< 3.5 W	
< 0.1 % span (DC, RTD); 0.2 % span (or 1 °C) + Cj failure	
< 0.1 % / K (DC, RTD); < 0.1 % FSR / K + Cj error 0.07 °C/K (thermocouples)	
-40 °C...+70 °C / -40 °C...+85 °C	
50 ms...1 sec (RTD, mV inputs), 110 ms...1 sec (V, mA inputs)	
5...95 %, no condensation	
cULus; GL; CE	
EN 50178 (secure separation)	
EN 55011, EN 61000-6	
300 V	
6 kV	
2	
III	
$\geq$ 5.5 mm (1 mm <small>Input/output</small> )	
2.5 kV	
<b>Screw connection</b>	<b>Tension clamp connection</b>
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
100 / 45 / 112.4	100 / 45 / 112.4

**Typical functions**



**Ordering data**

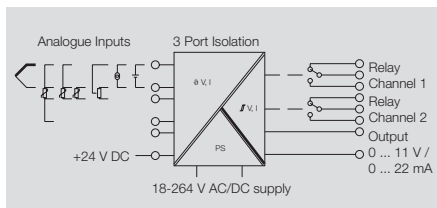
Type	Qty.	Order No.
<b>Screw connection</b>		
WAS6 TTA	1	8939670000
<b>Tension clamp connection</b>		
WAZ6 TTA	1	8939680000

CBX200 USB configuration interface - 8978580000

WAVE TTA EX

- Inputs and outputs can be configured by PC with TTA-SET, download at www.weidmueller.com
- Universal input signals
- Loop-powered or passive input
- Pluggable connection terminals
- ATEX 3 G Ex nA IIC T4
- UL Class I, Div. 2

WAS6 TTA EX / WAZ6 TTA EX

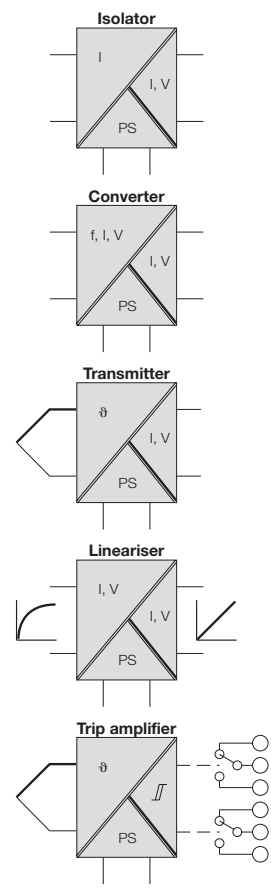


Technical data

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10 Ω...5 kΩ	
2 Hz...100 kHz	
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> 10 kΩ @ 0...10 V / > 20 kΩ @ -10...+10 V / < 700 Ω	
direct or inverted	
Linear, x <sup>1/2</sup> , x <sup>3/2</sup> , x <sup>5/2</sup> or user-defined curve (101 points)	
2 x 1 CO contact (hard gold-plated)	
250 V / 30 V	
2 A AC/DC	
24...240 V AC/DC; 24...36 V AC / 24...50 V DC (ATEX Zone 2)	
< 3.5 W	
< 0.1 % span (DC, RTD); 0.2 % span (or 1 °C) + CJ failure	
< 0.1 % / K (DC, RTD); < 0.1 % FSR / K + CJ error 0.07 °C/K (thermocouples)	
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100 / 45 / 112.4	100 / 45 / 112.4

Typical functions



Ordering data

Type	Qty.	Order No.
<b>Screw connection</b>		
WAS6 TTA EX	1	8964310000
<b>Tension clamp connection</b>		
WAZ6 TTA EX	1	8964320000

CBX200 USB configuration interface - 897850000