

AC Buffer Amplifier

vtu-ws

General Function

The buffer amplifier **vtu-ws** serves to convert alternating voltages up to 250V AC and alternating currents 1A/5A AC into norm signals (0-10V, 0/4-20mA). The output signal is DC decoupled of the input signals and with slide switches freely selectable. The buffer amplifier is furnished with a zero and a gain trimmer. So adjustments of zero point and gain can be done.

The **vtu-ws** is integrated into a DIN standard case for mounting rails.

Features

- measuring of alternating currents
- measuring of alternating voltages to N
- rectifying the effective value of input signals
- output signal DC decoupled
- norm signal switchable at output
- zero and gain adjustable
- plug-in terminal connections
- CE-mark

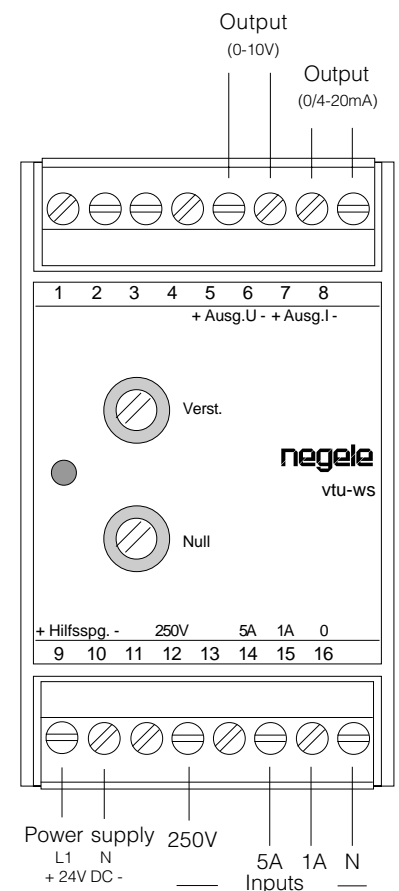


Buffer Amplifier **vtu-ws**

Specifications

Style	DIN standard case	of ABS for mounting rail acc. to EN 50022
	Dimensions	45x75x105mm (WxHxD)
Type of protection		IP 20, terminals guarded
Ambient	operating temp.	-10...+55°C
	storage temp.	-20...+70°C
	humidity	0...95%
Input	0-250V AC	$R_i = 1M\Omega$
	0-1A AC	$R_i = 0,22\Omega$
	0-5A AC	$R_i = 0,05\Omega$
Wave form		up to Crest-factor 5
Output	voltage 0...10V	load $>1k\Omega$
	current 0/4...20mA	burden $< 500\Omega$
Adjustment range		zero max. $\pm 5\%$
		gain max. $\pm 10\%$
Accuracy		$< \pm 0,2\%$ of full scale
	linearity	typ. 0,1%
	temperature drift	max. 0,01%/K
Decoupling voltage		input-output 4kV (version AC)
		input-output 2kV (version DC)
Supply voltage		230V AC, 47...63Hz, 2,5VA
		24V DC max 80mA, $\pm 15\%$

Connecting Plan vtu-ws



Order Designation and Type Key

Name	Type	Supply Voltage
Buffer Amplifier	vtu-ws	230V AC
Buffer Amplifier	vtu-ws	24V DC

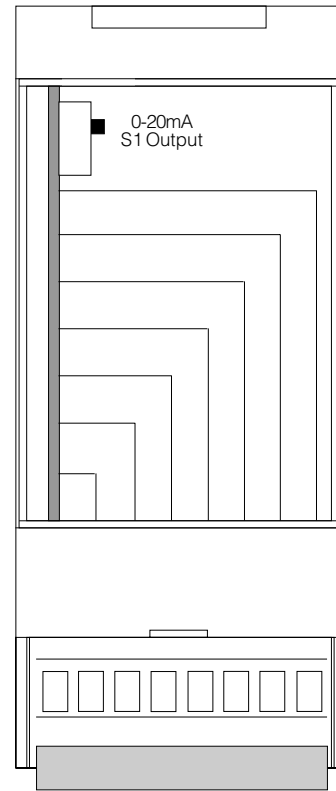
Trimmers and Selection Switches

- zero point, front-panel trimmer "Null"
- gain, front-panel trimmer "Verst."
- output 0...20mA or 4...20mA, switch S1

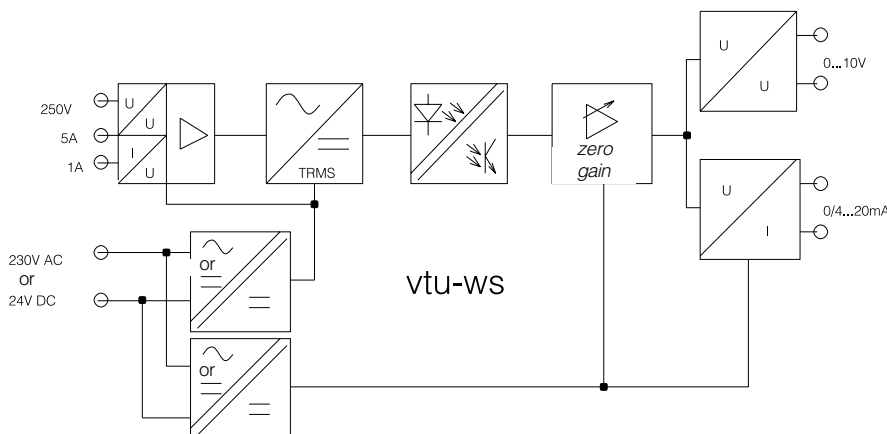
Settings and Operation Instructions

1. Set device by means of "S1" to the output line you need.
2. Loop ampere meter (range 20mA DC) into current output line or shunt volt meter (range 10V DC) to voltage output of the **vtu-ws** (see picture "adjustment").
3. Apply external alternating current or voltage source to the associated input terminals.
4. Apply supply voltage (terminal 9/10).
5. Set front-panel trimmer "Null" to right limit.
6. Apply zero signal (0A or 0V) to input line.
7. Adjust by means of front-panel trimmer "Null" the zero signal you need.
8. Apply maximal input signal.
9. Set by means of front-panel trimmer "Verst." the output signal you need.
10. Check intermediate values, for example 50% of max. value.

View vtu-ws (lid open)



Block Diagram vtu-ws



Adjustment vtu-ws

