

## Universal Digital Tachometer



## One instrument for multiple functions

### Features

- 5 digit 7 segment LED display
- Period measurement principle
- Operation down to 0.1Hz
- 2 frequency inputs
- 4, 8 or 16 different parameter sets
- Panel mounted
- Integrated sensor supply
- Optional relay, RS 232 data or current output
- Optional function selector switch input
- Wide tolerance AC/DC power supplies

### DFP 951/952 Advantages

- Measurement of absolute speed CA or CB
- Ratios and percentage difference
- Field programmable parameters
- Leading zero suppression
- Selectable single shot and external synchronisation
- Display in machine units with machine factor setting
- Programmable measurement time from 10ms
- Optional process time measurement e.g. oven baking time
- Under / Over range displays
- Input for proximity, electromagnetic or 3 wire sensors

### Typical applications

- Paper mill roller speed ratios
- Accurate display of low speed dryers
- Textile machine slip control
- One display for 2 turbochargers
- Oven baking time



**DFP 952**



**DFP 951**

## Measured Values and Ranges

<b>DFP 951</b>	With hidden push buttons for programming
<b>DFP 952</b>	Front panel push buttons

## Options

<b>I</b>	Current output 0/4...20mA, = display range, max 500 Ohm load, potential free, resolution 10 bit, 9-pole Sub-D connector
<b>D5</b>	Serial interface RS 232, 9-pole Sub-D connector
<b>R</b>	2 relay outputs 220 Vac, 1A, 50W, 9-pole Sub D connector
<b>K4</b>	External switch selection of 1 from 4 parameter sets
<b>K16</b>	External selection of 1 from 16 parameter sets
<b>S3</b>	Turbocharger sensor input
<b>s4</b>	Process time measurement

The options I, D5 and R are mutually exclusive.

## Measured Values and Ranges

<b>Absolute value (A)</b>	CA oder CB	0...9.9999	CA-CB	-9.9999...0...9.9999
		0...99.999		-99.999...0...99.999
		0...999.99		-999.99...0...999.99
		-9999.9...0...9999.9		-99999...0...99999
<b>Ratio (R)</b>	CA/CB	0...9999.9	CB/CA	0...99999
<b>Percentage Difference (%)</b>	(CA-CB)/CB-100.00...0...+999.99%		(CB-CA)/CB	-999.99...0...+100.00%
		-100.0 ...0...+9999.9%		-9999.9...0...+100.0%
		-100 ... 0... +99999%		-99999 ...0...+100%

## Parameters

	Standard 8 parameter sets configured via two push buttons
	Select currently effective parameter set
	Trigger level (V) for channel A and channel B
	Measured quantity, measuring range
	Machine factor A and B
	Fix-time (measurement time)
	Option settings e.g. limit values, analogue range.

## Power supply

<b>UC 2</b>	93...264 Vac / 45...450 Hz / 130...375 Vdc
<b>UC 3</b>	18...58 Vac / 45...450 Hz / 18...60 Vdc
<b>DC 0</b>	9...18 Vdc

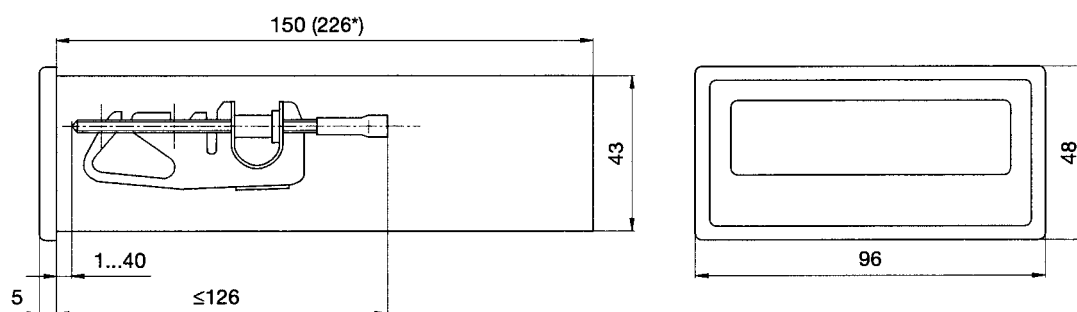
## Operating modes

<b>Automatic update</b>	Repetitive update of measured quantity based on the „Fix time“	
<b>External synchronisation</b>	Measuring cycle is reset via an external 0V clock pulse. The display is then blanked. A new measuring cycle starts when the clock goes high with the measured value being displayed as normal.	
<b>Single measurement</b>	Following an external reset signal, the instrument calculates the measured quantity once. The display is maintained until the falling edge of the next reset pulse.	
The modes "external synchronisation" and "single measurement" are not possible with options K4 and K16.		
<b>Machine factor</b>	Input in exponential notation	
	Mantisse: 0.001...9.999	Exponent: -4...0...+4

## Technical Data

<b>Display</b>	5 digit, 7 segment red LED, height 14mm, leading zero suppression	
<b>Frequency range</b>	0,1 Hz...50 kHz	
<b>Accuracy</b>	Better than $\pm(4 \times 10^5) \pm 1$ unit	
<b>Frequency inputs</b>	Grounded on one side, input impedance approx. 200 kOhms	
<b>Input voltage</b>	50 mV...80 Vrms	
<b>Trigger level</b>	Adjustable between $\pm 50$ mV and $\pm 4,55$ V	
<b>Signal input</b>	Facility for connecting electromagnetic, Ferrostat, HF transmitters & proximity switches	
<b>Sensor supply</b>	12 V, max. 120 mA	
<b>Measuring time</b> (Fix time)	Adjustable between 10 ms and 9.6 seconds in binary multiples or fractions of 0,6 s	
<b>Environment</b>	Operating temperature: 0...55 °C Storage temperature: -25...+65°C	

## Dimensions



Full technical details can be seen in the detailed technical specification.



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