

## T500 TACHOMETER

DualTach - a measurement & monitoring instrument with 2 frequency inputs

### Features

- High accuracy speed measurement: 0.002% for limits and 0.1% referenced to 20 mA
- 2 frequency + 2 binary inputs
- 2 current, 4 relay and 2 Open Collector outputs
- Sensor monitoring for all sensor technologies
- Ethernet interface - configuration via Java™ based software
- Extensive parameter and limit setting possibilities
- Programmable logical, diagnostic and measurement functions
- Plug in terminals

### The T500 Advantage

- Fast 8 ms relay reaction time on over speed
- 4 parameter sets each with 6 System Limits for almost limitless applications
- Logical limit combinations save relays & wiring
- Acceleration measurement
- Compatible with all popular sensor types

### Typical Applications

- Micro turbine speed measurement and over speed protection
- Diesel engine start control and protection
- Dual turbocharger speed measurement
- Universal tachometer

## 2 Channel Tachometer with 4 Relays, 2 Open Collector and two 0/4-20mA Outputs:

<b>Type and part numbers</b>	AC version:	T501.50	Part number: 384Z-05600
	DC version:	T501.10	Part number: 384Z-05601

### Technical Data

<b>Measurement range</b>	0.025 Hz... 50.00kHz		
<b>Measuring time</b>	Configurable min. measurement time (tM): 2/5/10/20/50/100/200/500 ms, 1/2/5s.		
<b>Reaction time</b>	Current output: Relays:	Typical tM + 4.1 ms Typical tM + 6 ms	Maximum Input period + tM + 4.1 ms Maximum Input period + tM + 6 ms
<b>Accuracy</b>	Limits / inputs	Frequency: 0.002%	
	Current output	0.1% referenced to 20mA or the end value Max 0.2 % from measuring value + 2 LSB (-40°...+70°C)	
<b>Sensor inputs (2 inputs)</b>	To measure frequency signals (speed sensors)		
	<b>Frequency range</b>	0.025 Hz to 50 kHz	
	<b>Trigger levels</b>	Selectable by software:	Fixed at 3 V or adaptive from either 20 mVrms or 180 mVrms
	<b>Sensor supply</b>	+14 V ±0.5 V, max 35 mA, short circuit proof	
	<b>Monitoring</b>	3 wire sensors:	Programmable current consumption limits of 0.5...35mA.
		Electromagnetic sensors:	Open circuit detection
<b>Binary inputs (2 inputs)</b>	Isolated inputs for binary signals		
	<b>Levels</b>	Low: < +5 V      High: > +15 V	(software selection of active Low or High)
	<b>Functions</b>	External selection of controls (parameter sets) Combination in System Limit    Reset for relay, creep and memory Configuration and monitoring    Ethernet interface	
<b>Data I/O</b>			
<b>Supply</b>	AC version:	90...264 VAC max 14 W / 120...370VDC	
	DC version:	18...36 VDC max 6.8 W	
<b>Relays (4 relays)</b>	To treat the status of System Limits and sensor		
	<b>Limits</b>	4 parameter sets each with 6 System Limits (AND / OR combined values)	
	<b>Hysteresis</b>	Freely programmable upper and lower set-points for each limit	
	<b>Contacts</b>	Change-over: 230 VAC / max. 0.45 A 125 VAC / max. 1 A 30 VDC / max. 2 A	
<b>Open collector (2 outputs)</b>	Isolated outputs of sensor frequencies: programmable x1, x2 or x4 (subject to 2 channel phase shift) Can also react on System Limits, see above		
	<b>Function</b>	Latching / inversion (fail safe)	
	<b>Contacts</b>	Umax = 36 Vdc Imax = 30 mA	
<b>Analog outputs (2 outputs)</b>	Isolated current output to treat information of sensor 1, 2, analog in or of the math result		
	<b>Type</b>	0...20 mA / 4...20 mA	
	<b>Maximum load</b>	500 Ohm corresponding to a maximum of 10 V	
	<b>Resolution</b>	14 bit corresponding to 1:16384 (actual resolution: 1.36 µA)	
	<b>Linearity error</b>	Max. 0.015 %	
	<b>Temperature drift</b>	Typ. ± 50 ppm/K, max ± 120 ppm/K	

## T500 TACHOMETER

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<b>Operating temperature</b>	AC Version: -25°...+50°C    DC Version: -40°...+70°C
<b>Storage temperature</b>	-40°...+85°C
<b>Climatic immunity</b>	In accordance with DIN 40 040
<b>Relative humidity</b>	75% averaged over 1 year; up to 90% for 30 days max.
<b>Isolation</b>	Min. 1000 V
<b>EMC</b>	Electrostatic discharge: IEC 61000-4-2    Electromagnetic fields: IEC 61000-4-3 Fast transients: IEC 61000-4-4    Slow transients: IEC 61000-4-5 RF common mode: IEC 61000-4-6    Magnetic fields: IEC 61000-4-8

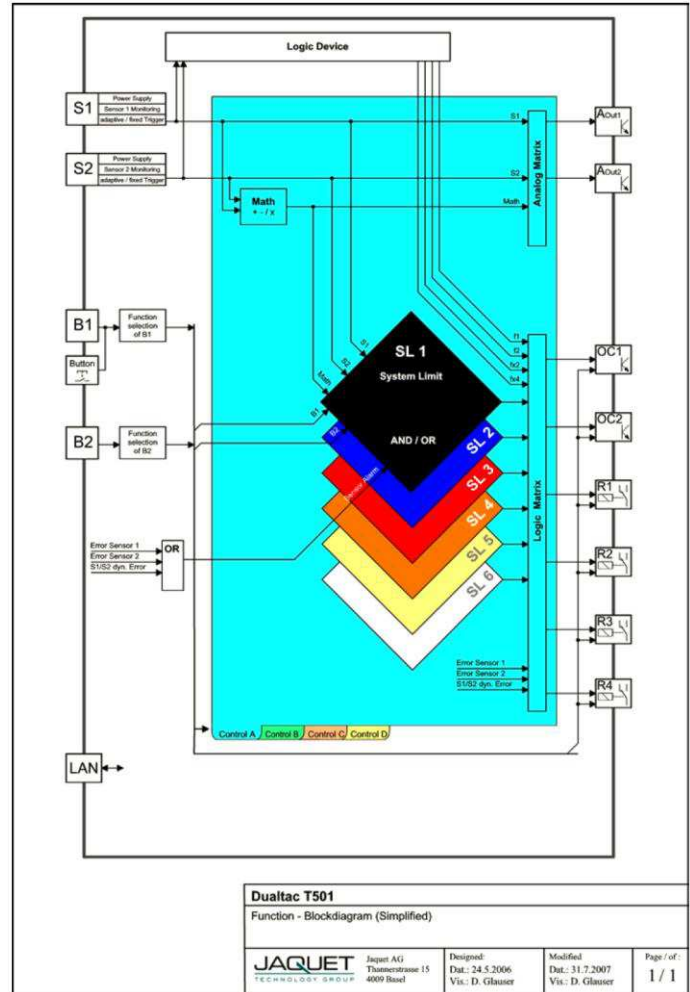
**Limits for limitless applications**

T500's allow you the freedom to choose the functions or system configuration that best match your application.

As well as being replacements for previous generation tachometers they can process multiple sensors data including frequency and binary inputs.

Want to know when a trip occurred? Could really do with more gear teeth than space allows? Need to swap between different parameter sets? - No problem - the T500 DualTach provides the solution.

Uniquely, the T500's also enable you to logically combine decision parameters from more than one sensor or command to create control signals.



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