Nidec

Measuring Quality

DT-501X Panel Meter Tachometer

The DT-501X Panel Meter Tachometer with optional outputs is a multi-faceted instrument ideally designed for speed, rate or time monitoring applications when combined with a compatible process speed sensor. With its industry-leading 0.87" (22 mm) height display and compact body depth of only 3.6" (92 mm), the DT-501X allows mounting in tight panels or small enclosures. Added versatility is offered with its range of standard inputs which include NPN, contact and square or sine wave signals produced from devices such as pulse generators, proximity sensors, photoelectric sensors, magnetic sensors, rotary encoders and NPN OC transistors. The DT-501X is fully scalable and possesses four selectable modes allowing it to measure various process speeds, rates and times: tachometer, flowmeter, process time span and elapsed time mode which displays the inverse to the input signal, common in oven conveyor applications. An added teaching function auto-scales the control which simplifies the set-up by properly coordinating the display with the input of the sensor's signal. Analog, contact, or SSR outputs are available for additional automation control.

These enhanced features of the DT-501X Panel Meter makes them the perfect choice for speed, process rate or time applications such as machining operation timing, conveyor speed, motor output, volumetric flowrate, elapsed time of oven curing etc.

Features

- *Industry-leading 0.87" (22 mm) height, 6 digit, red LED display enables viewing from greater distances*
- *Integral sensor power source saves money by eliminating need to purchase a separate power supply*
- *Scalable programming gives user the flexibility to set up and monitor virtually any process*
- *Selectable update time allows operator to speed up/slow down display changes to facilitate process*
- *Test mode allows instant checking of correct operational performance of the display and keys*
- *Great versatility with multiple sensor input capability in one unit: NPN open collector, contact and square or sine wave sensor inputs.*
- *Teaching function auto-scales the display by inputting signal from sensor; saves time programming manually*
- *NEMA 4X (IP66) front cover protection keeps water out, permits usage in compatible plant wash-down operations*
- *Auto Zero function zeroes the display after the final signal initiates a preprogammed time countdown.*
- *Max. Min. automatically stored into memory; quickly retrieved via keypad*
- *1/8 DIN size with minimal depth of only 3.6" (92 mm) allows mounting in small enclosures*

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DT-501X Specifications

Input Range	0.0067 Hz to 100 kHz in Tachometer, Flowmeter & Elapsed time modes; 10 ms to 3600 s in Time Span mode
Input Signal Characteristics	NPN open collector input: max. frequency 100 kHz / Contact input: max. frequency 20 Hz / Square wave input: max. frequency 30 kHz – Sine wave input (magnetic pickup): max. frequency 10 kHz
Display	Red 7 segment 6 digit LED, numeral height of 0.87" (22 mm); negative (-) sign available
Display Range	Tachometer/Flowmeter: 0 – 999999; with 10^-1 to 10^-5 decimal point position selection. Elapsed Time: 0:00:00 – 9:59:59 (hr., min., sec., base 60) ; or 0:00 to 999:99 (second: 1/100 sec, base 10 display). Process Time Span: 0:00:00 – 0:59:59 (hr., min., sec., base 60) or 0.00 – 999.99 sec. (second: 1/100 sec, base 10 display) with zero suppression function
Accuracy	Tachometer/ Flowmeter & Elapsed Time: ± 0.008 % ± 1 digit; Process Time Span: ± 0.1 % ± 1 digit
Display Update Time	0.2, 0.5, 1, 2, 5, 10, 15, 30, 60 sec. selectabel in Tachometer, Flowmeter & Elapsed Time modes
Auto Zero Time	Tachometer & Flowmeter Modes: 0.1 to 150 Seconds; Elapsed Time & Time Span Modes: 0.1 to 3600 Seconds
Optional Outputs	NPN; contact relay; analog output: (selectable) 0-1, 1-5, 0-10 VDC & 4-20 mA
Power Requirement	85 - 264 VAC (50/60 Hz) Optional (9 - 35 VDC also available)
Sensor Power Supply	12 VDC (100 mA)
Temperature Limits	32 - 113°F (0 - 45°C)
Humidity Limits	35 to 85% RH
Protection Class	Front Panel: NEMA 4X (IP66) ; Rear Terminal Block NEMA 1 (IP20)
Dimensions	3.8 x 1.9 x 3.6" (96 x 48 x 92 mm)
Product Weight	0.44 lb (200 g)
Package Weight	0.73 lb (330 g)
Approvals	RoHS
Warranty	2 year
Included Accessories	Waterproofing O'ring, engineering unit decal sheet

Ordering Details

DT-501XA	Panel meter tachometer, 85-264 VAC power
DT-501XA-CPT	Panel meter tachometer, 85-264 VAC power, relay output
DT-501XA-TRT	Panel meter tachometer, 85-264 VAC power, NPN output
DT-501XA-FVT	Panel meter tachometer, 85-264 VAC power, analog output terminal block connection
DT-501XA-FVC	Panel meter tachometer, 85-264 VAC power, analog output 36 pin connection
DT-501XA-CPT-FVC	Panel meter tachometer, 85-264 VAC power, relay output, analog output with 36 pin connection
DT-501XA-TRT-FVC	Panel meter tachometer, 85-264 VAC power, NPN output, analog output with 36 pin connection

NOTE: To change model from 85-264 VAC power supply to 9-35 VDC power supply, change XA to XD in model code.

Available Sensors

Proximity, Photo-Reflective, Rotary Pulse Encoder, Magnetic, Contrast, Luminescence & Slot/Label Sensors are a few of the many available panel accessories from Nidec-Shimpo for use with the DT-501X. For additional details, contact us or visit our website at www.shimpoinst.com

Rotary Encoder

Optical Contrast Sensor

Magnetic Sensor

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