

## SNDJ-CNT Series Tachometers



### DESCRIPTION

Honeywell's CNT Series is the next generation of flexible and powerful tachometer products. Configured as either DIN rail or panel-mounted units, CNT Series products are suitable for the measurement, display, and control of speed in various applications – from diesel engines to windmills and escalators. They sense, monitor, discriminate, protect, diagnose, and boost.

### FEATURES

- Converts absolute speed into an analog signal
- Including 2 limits (A/B) with programmable hysteresis
- One changeover relay assigned via binary input to limit (A or B)
- G03 and G04 models with digital display
- Isolated signal input with automatic trigger level adjustment
- Built in isolated sensor supply with sensor monitoring
- Open collector output of sensor frequency
- Accuracy class 0.05 % for limits and 0.5 % for analog signals
- Configuration and status via Windows software
- Wide tolerance 10 Vdc to 36 Vdc power supply

The G01/G02 and G03/G04 are supplied with full documentation and the CNT Windows software. This allows quick and easy configuration of all operating parameters, unit interrogation of identity and parameters, PC display of current measurement and relay status, and archiving and printing of the configuration.

### POTENTIAL APPLICATIONS

- Diesel engine start control and overspeed protection
- Micro turbine measurement and protection
- Turbocharger speed measurement
- Machine protection in safety critical applications
- Universal speed measurement and indication

# SNDJ-CNT Series

## SPECIFICATIONS

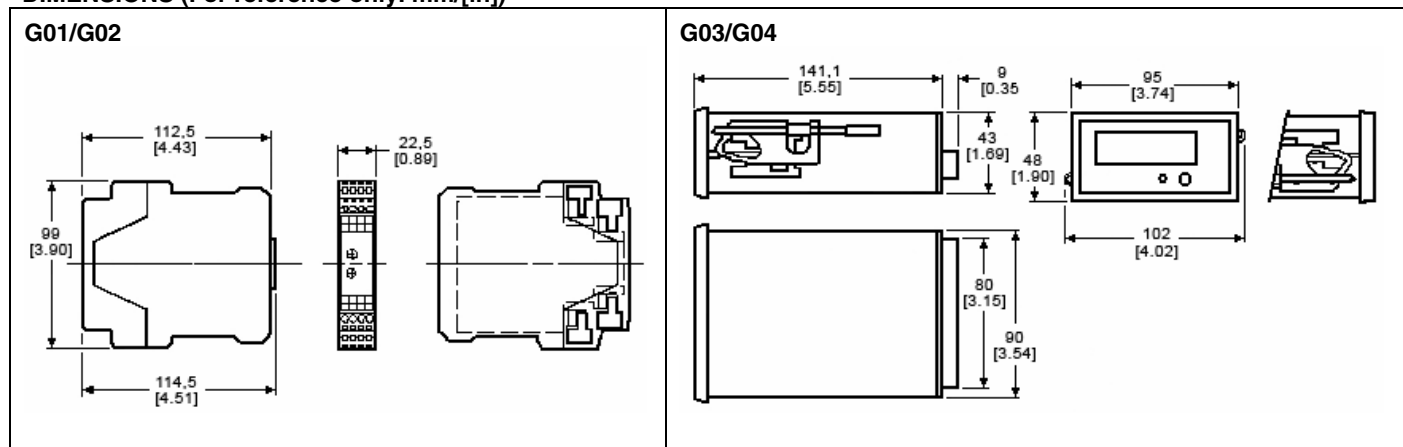
Parameter	Characteristic
Measuring range	Lowest: 0 Hz to 1,000 Hz Highest: 0 Hz to 35 kHz
Accuracy	0.5% referred to the analog output end of range value.
Analog output	G01/G03: current output 0 mA to 20 mA, resp. 4 mA to 20 mA G02/G04: voltage output 0 V to 10 resp. 2 V to 10 V Load G01: max 500 Ohm corresponding to a max. of 10 V Load G02: min. load 7 kOhm corresponding to a max. of 1.4 mA
Maximum open circuit voltage	12 V
Resolution	12 bit corresponding to 1:4096.
Maximum linearity error	0.1 %
Temperature drift	±100 ppm/degree K typ., ±300 ppm/degree K max.
Set points/relay range	See measuring range above
Hysteresis	for each limit an upper and a lower set point may be set independently
Change over contact	max. 250 Vac, 1250 VA (dc: see operating instructions)
Data I/O	Serial EIA RS 232 interface with +5V-CMOS level 3-pole. 3,5 mm stereo headphone connector on the front side, common reference potential with negative pole of sensor supply
Measuring/response time	The min. measuring time (fix time) is programmable: 2/5/10/20/50/100/200/500 ms, 1/2/5 s <b>For input frequencies with a period SHORTER than the fix time:</b> <i>Analog output</i> <ul style="list-style-type: none"> <li>• Max.: 2 fix time + max. period of the input frequency + 7.5 ms</li> <li>• Typ.: fix time + 1 period of the input frequency + 7.5 ms</li> </ul> <i>Relay</i> <ul style="list-style-type: none"> <li>• Max.: 2 fix time + max. period of the input frequency + 10.5 ms</li> <li>• Typ.: fix time + 1 period of the input frequency + 10.5 ms</li> </ul> <b>For input frequencies with a period LONGER than the fix time:</b> <i>Analog output</i> <ul style="list-style-type: none"> <li>• Max.: period of the input frequency + 7.5 ms</li> </ul> <i>Relay</i> <ul style="list-style-type: none"> <li>• Max.: period of the input frequency + 10.5 ms</li> </ul>
Sensor input	<ul style="list-style-type: none"> <li>• Input resistance: 30 kOhm</li> <li>• Frequency range: (-3 dB): 0.01 Hz/35 kHz</li> <li>• Trigger level: adaptive trigger level from 20 mV to 5 V or 500 mV to 5 V (factory configuration) peak depending on the amplitude of the input signal</li> </ul>
Sensor supply	Built-in sensor power supply: +14 V, max 35 mA, short-circuit proof built-in pull up (+14 V) and pull-down (0 V) resistor 820 Ohm for connection of two-wire transmitters or daisy chaining of CNTs
Sensor monitoring	<ul style="list-style-type: none"> <li>• Powered 2 and 3 wire sensors: min. and max. current consumption values are selectable in the range</li> <li>• 0.5 mA to 25 mA. Sensors with consumption below I<sub>min.</sub> or above I<sub>max.</sub> will be signaled as defective</li> <li>• Electromagnetic/VR sensors: Open circuit state of sensors. This supervision runs permanently</li> <li>• Both monitoring functions can be switched off via the configuration software</li> </ul>
Open collector output	Galvanically separated output of sensor frequency.
Binary inputs	For external selection between two sets (A/B) of programmable relay control and acknowledge functions: (No external pull up needed) low active :U < +1.5 V high (open) :U > +3.5 V

# Tachometers

## SPECIFICATIONS (continued)

Parameter	Characteristic
Environmental	KUE according to DIN 40 040 <ul style="list-style-type: none"> <li>Operating temperature: -40 °C to 85 °C [-40 °F to 185 °F]</li> <li>Storage temperature: -40 °C to 90 °C [-40 °F to 194 °F]</li> <li>Relative humidity up to 75% average over one year period, up to 90% max. for 30 days</li> </ul>
Power supply	10 Vdc to 36 Vdc, power consumption max. 3 W
Insulation	Galvanic separation between power supply, current output and the sensor power supply. Isolation 700 Vdc/500 Vac. Relay contact isolation: 1500 AC
Electromagnetic compatibility (EMC)	<ul style="list-style-type: none"> <li>Radiation in accordance with international standards and EN 50081-2</li> <li>Immunity in accordance with international standards and EN 50082-2</li> <li>Conducted emissions: CISPR 16-1, 16-2 Radiated emissions: EN 55011</li> <li>Electrostatic discharge: IEC 61000-4-2 Electromagnetic fields: IEC 61000-4-3</li> <li>Conducted fast transients: IEC 61000-4-4</li> <li>Conducted slow transients: IEC 61000-4-5</li> <li>Conducted high frequency: IEC 61000-4-6</li> <li>Pulse modul. elec. field: ENV 50140</li> <li>Power frequency magnetic field: IEC 1000-4-8</li> </ul>
Standards	<ul style="list-style-type: none"> <li>EN 50155</li> <li>GL/Germanischer Lloyd</li> <li>Meets UL requirements - certification available upon request</li> </ul>
Rail	Rail DIN 4622713 (EN 50022) or mounting plate to DIN 43660 (46121)
Housing	Protection class IP40, Terminal IP20
Terminals	See operating instructions
Weight	G01/G02: 150 g [5.29 oz] G03/G04: 210 g [7.41 oz]

## DIMENSIONS (For reference only. mm/[in])



## ORDER GUIDE

Catalog listing	Description
G01	One channel tachometer with relay and 0 mA/4 mA to 20 mA output
G02	One channel tachometer with relay and 0 V/2 V to 10 V output
G03	One channel tachometer with relay and 0 mA/4 mA to 20 mA output, with display
G04	One channel tachometer with relay and 0 V/2 V to 10 V output, with display

## **WARNING**

### **PERSONAL INJURY**

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### **WARRANTY/REMEDY**

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

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Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

## **Automation and Control Solutions Sensing and Control**

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## **WARNING**

### **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

### **SALES AND SERVICE**

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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