

Single-phase A.C. tachogenerator with direction-sensitive switch

- Heavy-duty tachogenerator
- Straightforward application
- Suitable for extremely rigorous operating conditions
- NORIS tachogenerators are maintenance-free
- Rugged construction
- A.C. voltage and D.C voltage output
- Integrated direction-of-rotation identification
- Meets CE requirements
- Noise-immune signal transmission
- No radio interference
- Direct or indirect drive possible
- Protection class: IP66
- Choice of mechanical connections for speed sensing
- Flanges and brackets available for mounting
- Suitable evaluation devices available



GE1214



Germanischer Lloyd

Tachogenerators of series GE..

NORIS A.C. tachogenerators are maintenance-free speed-measuring devices using permanent-magnet excitation. They are designed to provide an A.C. voltage signal that is proportional to a speed of their drive shaft. It is possible to use either voltage or frequency as the measured variable. Tachogenerators are used where a direct supply

is desired for indicating instruments, monitoring or processing devices. Drive is either direct from the take-off shaft by means of couplings or indirectly via belt-and-pulley or friction wheel arrangements. Tachogenerators are working without operating voltage.

General notes on Type GE1214-..

Method of operating of GE1214-.. tachogenerator

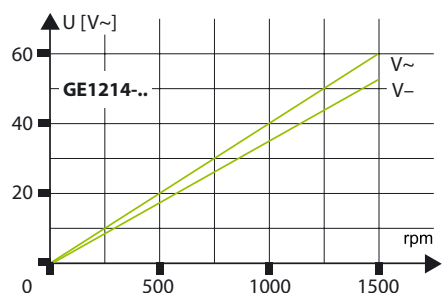
The drive shaft rotates a permanent magnet in a stationary conductor and induces a voltage in the latter whose amount and frequency are proportional to the speed of the drive shaft. The GE1214-.. is of 12 the pole type having 6 pairs of poles so that the frequency of the alternating voltage is 1/10 of the input speed. A mechanical direction switch fitted with a reversible rectifier permits direct detection of the direction of rotation. A change in direction will be detected from approx. 1/4 rotation of the drive shaft independent of the speed.

Details of the GE1214-.. tachogenerator

- Electrical termination by screw terminals
- Output is an approximately sinusoidal A.C. voltage (factory calibration of speed effected via A.C. voltage)
- Additional output as a pulsating D.C. voltage with direction-sensitive polarity
- Integrated direction-of-rotation switch with hermetically sealed reed relay
- High electric output for multiple indicator operation
- Extremely long life through extra-sturdy suspension of drive shaft
- Direct drive possible via flexible couplings
- Indirect drive possible via V-belt pulley or friction wheels
- Wheels and pulleys can be mounted directly on the shaft
- Extremely high protection class (IP66) and rugged construction

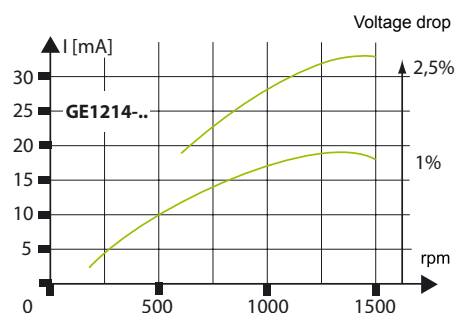
Voltage characteristic

The voltage characteristic shows the output voltage plotted against speed at a load of 1 mA:



Load characteristic

The load characteristic shows the drop in output voltage in % at varying loads and at different speeds:

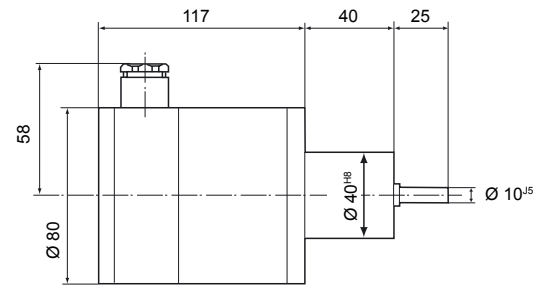


Technical Data

Series GE1214-..	
Maximum speed	1,750 rpm (for short time up to 2,000 rpm)
Upper speed range	150 - 1,750 rpm
Calibration	U1: 1,500 = 60 V/AC, U2: 1,500 = 52.2 V/DC
Error class	1% IEC51-1
Direction-of-rotation switch	Beginning with 90° change of the direction the direction-of-rotation switch change the polarity of DC voltage
Output signal	AC voltage: U1 and pulsating DC voltage: U2
Frequency of AC voltage	0,1 x speed
Wave form of AC voltage	Approximately sinusoidal with approx. 10% ripple
Pole pairs/poles	6/12
Max. radial shaft loading	70 N
Starting torque	0,05 Nm
Vibration resistance	4g DIN IEC 60068-T2-6 increased strain, characteristic 2 (10 - 100 Hz)
Shock resistance (impact)	300 m/s ² with 18 ms dwell time DIN IEC60068-T2-27
Climatic test	DIN IEC60068-T2-30
Operating temperature	-20 ... +80 °C
Shelf temperature	-45 ... +85 °C
Humidity	RH 96% maximum
Insulation test	2 kV
Protection class	IP66
Termination	Screw terminals
Mechanical connection	GE1214: connection 2 to DIN 5377 (additional see type key)
Installed position	Any
Weight	Approx. 1.75 kg
Standard supply	CE requirements complied with, DIN 5377, type approval by GL

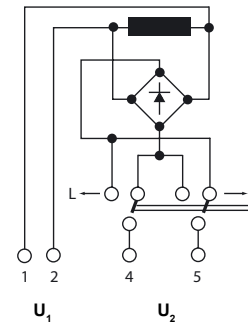
Other Data

GE1214 with connection 2 to DIN 5377



Termination of GE1214-..

Screw terminals, with cable entry PG16



Accessory to tachogenerators

Item	Description
Pedestal, brackets and flanges for mounting of tachogenerators	
HA6	Bracket Ø 120, prepared, mounting hole Ø 40 ^{h7}
HA6-1	Bracket Ø 120, not prepared, mounting hole Ø 40 ^{h7}
HA8-1	Pedestal to DIN 5377, base mounting, axe height 63, mounting hole Ø 40 ^{h11}
HA8-2	Pedestal to DIN 5377, base mounting, axe height 125, mounting hole Ø 40 ^{h11}
FL21-1	Flange Ø 120 to DIN 5377 connection 7, with bore, mounting hole Ø 40 ^{h7}
FL21-2	Flange Ø 120, to DIN 5377 connection 7, not prepared, mounting hole Ø 40 ^{h7}
Driver for connection between shaft and coupling	
ANx-xG	Different thread, diameter and slit deliverable
Rubber coupling	
KG2-1	Rubber coupling, 10 ^{F7} bore, 50 mm length
Wheels or pulleys of indirect drive	
RR99	Friction wheel Ø 99, additional deliverable
RK100	V-belt pulley Ø 100, additional deliverable

additional by inquiry
additional information for drive and mounting see drawing

Type key / variants

Device code

GE	Single-phase A.C. tachogenerator
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Type series

1214	Rugged construction, calibration U1 1,500 rpm = 60 V/AC, U2 1,500 rpm = 52.5 V/DC, upper speed range 150 ... 1,750 rpm, with direction-of-rotation switch
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Variant

without designation	Connection 2 to DIN 5377 (standard variant)
- D	Connection for flexible shaft to DIN 75532 E2, drawing 40.400
- R	Connection with shaft connection 10 x 3 mm, drawing 40.400
- Wx	Connection with shaft in special length, x=length of shaft, drawing 40.400

additional by inquiry

GE 1214 (GE1214)



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