

Hall Effect Zero-Speed Sensors
F12A - F12S - F58A - F58S

Operating Instruction
385E-64670

Function	The F12 and F58 series Hall effect speed sensors are suitable for use with a ferromagnetic gear or pole wheel to generate speed proportional impulse frequencies. They exhibit a static function, whereby pulse generation down to 0 Hz is guaranteed. The sensor function is independent of rotational mounting angle.
Supply voltage	8...25 VDC
Current consumption	10mA max. (without load)
Signal output	Square wave signal from NPN output transistor with 2.7 kOhm pull-up, DC-coupled to the supply (negative pole = reference voltage) Max. load 25 mA, Output voltage HI : power supply voltage Output voltage LO: < 0.5 Volt at I = 25 mA
Frequency range	0 Hz...15 kHz
Insulation	Housing and electronics are galvanically isolated. (500V/50Hz/1Min.)
Operating temperature	- 20 ...+100°C.
Housing	Stainless steel 1.4305. Dimensions per below drawings.
Cable / Connector	S version: PUR cable, three conductor 0.34mm ² (AWG22) / A version: Euro M12 thread 4 pin connector
Protection class	Sensor head IP 68, cable exit IP 67 , connector IP68 (mated)
Vibration immunity	30 g from 5...2000 Hz.
Shock immunity	50 g for 20 ms, half-sine wave
Weight	S version ~ 120 g , including 1m cable. / A version ~80g
Air gap	For pole wheel M1 (DP 25.4): 0.3 ... 0.5 mm, for pole wheel M2 (DP 12.7): 0.3 ... 1.5 mm
Pole wheel	Ferromagnetic toothed wheel, i.e. B. USt37-2, type 1018 CRS, preferred involute gear form Module ≥1 (DP25.4), min. tooth width 6 mm, side offset with min. tooth width: < 0.2 mm, eccentricity <0.2mm

Installation

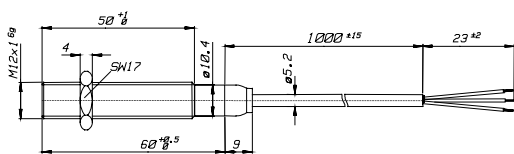


The sensor wires must be laid as far as possible from electrical motors, relays, solenoids, etc., and must not be run parallel with power cables. The maximum recommended cable length is 20 meters (65 feet).

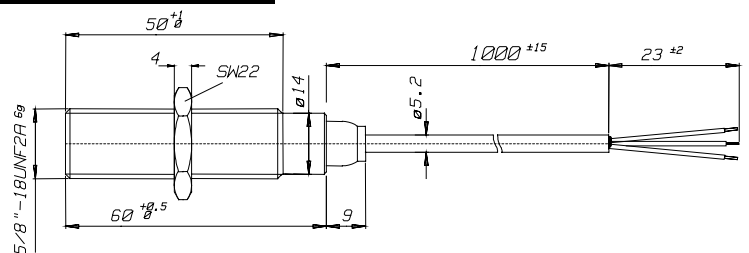
Using radial or axial mounting, the sensor should be mounted with the center of the sensor face over the center of the gear teeth or targets. Using radial sensor mounting, some axial movement is permissible when using a sufficiently thick target.

A solid and vibration free mounting of the sensor is important.

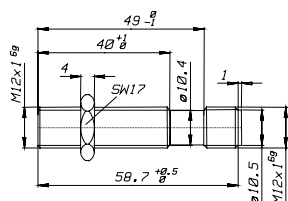
F12S : 385Z-05331



F58S : 385Z-05332



F12A : 385Z-05322



F58A : 385Z-05323

