



# DSF xx10.xx AxV

Single Channel Hall Effect Speed Sensor

# Product ID

Type #	Product #	Drawing #
DSF 1210.00 AHV	374Z-03867	110829
DSF 1210.00 ATV	374Z-03868	110829
DSF 1210.01 AHV	3742608541	120251
DSF 1410.00 AHV	374Z-03940	111499
DSF 1410.00 AHV S148 IG=100mm	374Z-04807	111499 S148
DSF 1410.00 ATV	374Z-03939	111499
DSF 1410.00 ATV S148/1 IG=60mm	374Z-04112	111499 S148/1
DSF 1410.02 AHV L=70mm	374Z-04429	111985B
DSF 1410.02 AHV L=100mm	374Z-04428	111985
DSF 1410.02 AHV L=140mm	374Z-04427	111985A
DSF 1410.02 AHV L=220mm	374Z-05858	115625
DSF 1410.03 AHV	374Z-04400	112042
DSF 1610.00 AHV	374Z-03942	111500
DSF 1610.00 ATV	374Z-03941	111500
DSF 1610.00 ATV S167	374Z-04784	111500 S167
DSF 1610.02 AHV	374Z-04762	112159
DSF 1610.12 ATV L=70mm	374Z-05450	114133
DSF 1810.00 AHV	374Z-03887	110830
DSF 1810.00 A1HV	374Z-05261	110830
DSF 1810.00 ATV	374Z-03886	110830
DSF 1810.02 ATV	374Z-04339	111849
DSF 1810.04 AHV	374Z-04987	112683
DSF 1810.05 AHV	374Z-04988	112685
DSF 1810.08 AHV	374Z-05169	113134
DSF 2210.00 AHV	374Z-03873	110831
DSF 2210.00 ATV	374Z-03888	110831
DSF 2210.03 ATV	374Z-05767	115268

DSF EH10.07 A1HV         2742-05027         111855A           DSF EH10.17 ATV         3742-05033         1115521           DSF EH10.18 AHV         3742-05033         115521           DSF EH10.18 AHV         3742-05033         115521           DSF EH10.18 AHV         3742-05085         115732           Seneral         The sensors DSF xx10.xx AvV are suitable, in conjunction with a pole wheel, for generating square wave signals proportional to rotary speeds. They have a dynamic behavior, so that Jules generation is guaraneed down to a speed corresponding to a frequency of 0.05 Hz. The monitoring elements consist of a magnetically biased hall effect semiconductor followed by a short-circuit proof push-pull output stage. The sensor function is independent on the rotational orientation of the sensor axis.           Certification         The DSF sensors are approved by Germanischer Lloyd (GL): Certificate 1733-00 HH           Fechnical data         Supply voltage         10 V to 30 V, protected against transient overvoltage and reverse polarity           Signal output         * Square wave signals from push-pull stage, DC-coupled to the supply         * inegative pole = reference voltage)           * Push-pull outputs are signals from push-pull stage, DC-coupled to the supply         * inegative pole = reference voltage)           Certificate 1733-200 HH         * Correling to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-41           Couplet bar and the output stage after according to 10000 MHz         * The outputs are short directive proveni		DSF 2210.04 ATV	374Z-05777	115268
DSF EH10.17 ATV         9742.05833         115521           DSF EH10.18 AHV         3742.05865         115732           Ceneral         The sensors DSF xx10.xx AvV are suitable, in conjunction with a pole wheel, for generating square wave signals proportional to raray speeds. They have a dynamic behavior, so that Judies generation is guaranteed down to a speed corresponding to a frequency of 0.05 Hz. The monitoring elements consist of a magnetically biased hall effect semiconductor followed by a short-circuit proof push-pull output stage. The sensor function is independent on the rotational orientation of the sensor as a pproved by Germanischer Lloyd (GL): Certificate 17332-00 HH           Certification         The DSF sensors are approved by Germanischer Lloyd (GL): Certificate 17332-00 HH           Supply voltage         10 V to 30 V, protected against transient overvoltage and reverse polarity           2urrent consumption         Max. 16 mA (without load)           Signal output         * Square wave signals from push-pull stage, DC-coupled to the supply           * Ingelive pole = reference voltage)         * Push-pull outputS is max = 4/-20 mA, Uwe 2.5 V, Umgh > Uweply-3.5 V           * Treouency range         0.05 Hz 20 kHz           Electromagnetic         According to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:           compatibility (EMC):         * According to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:           * Asst electrical transientshursts, coupled to sensor cable with a capacitive coupling damp: upt = 4 kV peak according to EC 61000-4.4; severity level 4<				
DSF EH10.18 AHV         374Z-05865         115732           Ceneral         The sensors DSF xx10.xx AxV are suitable, in conjunction with a pole wheel, for generating square wave signals proportional to rotary speeds. They have a dynamic behavior, so that pulse generation is guaranteed down to a speed corresponding to a frequency of 0.05 Hz. The monitoring elements consist of a magnetically biased hall effect semiconductor followed by a short-circuit proof push-pull output stage. The sensor function is independent on the rotational orientation of the sensor are approved by Germanischer Lloyd (GL): Certificate 17332-00 HH           Fechnical data         Supply voltage         10 V to 30 V, protected against transient overvoltage and reverse polarity Zurrent consumption           Max. 16 mA (without load)         * Square wave signals from push-pull stage, DC-coupled to the supply 'negative pole = reference voltage)           Signal output         * Square wave signals from push-pull stage, DC-coupled to the supply 'negative pole = reference voltage)           * Push-pull outputs : Ims = +/.20 mA, Uwe < 2.5 V, Uwe > Uwe > 0.05 Hz 20 kHz           * Conding to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:           * Conding to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:           * Conding to Directive 2004/108/EC, EN 61000 6-2, severity level 3           * Fast electrical transients/bursts, output of 30 Vm, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to 1EC 61000-4-3, severity level 4           * Gast electronal transients/bursts, output of 30 Vm, 50% AM, 1 kHz in the range of 1 MHz to 10000 MHz according to 1EC 61000-4-4. severity level 4 <th></th> <th>DSF EH10.08 A1HV</th> <th>374Z-04839</th> <th>111855A</th>		DSF EH10.08 A1HV	374Z-04839	111855A
Seneral           Function         The sensors DSF xx10.xx AxV are suitable, in conjunction with a pole wheel, for generating square wave signals proportional to rotary speeds. They have a dynamic behavior, so that pulse generation is guaranteed down to a speed corresponding to a frequency of 0.05 Hz. The monitoring elements consist of a magnetically biased hall effect semiconductor followed by a short-circuit proof push-pull output stage. The sensor function is independent on the rotational orientation of the sensor axis.           Certification         The DSF sensors are approved by Germanischer Lloyd (GL): Certificate 17332-00 HH           Fechnical data         Supply voltage           Supply voltage         10 V to 30 V, protected against transient overvoltage and reverse polarity Certificate 17332-00 HH           Signal output         * Square wave signals from push-pull stage, DC-coupled to the supply * 'negative pole = reference voltage! * Push-pull outputs : Ims = +/- 20 mA, Uow < 2.5 V, Ungr > Ungrpt - 3.5 V * The outputs are short dircuit proof and protected against reverse polarity.           Electromagnetic compatibility (EMC):         * Coording to Directive 2004/109/EC, EN 61000 6-2 and 61000-6-4: * discharge into housing, cable shield and wires: up to 24 kV peak Electrostatic according to IEC 61000-4: * Gata electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp; up to 144 kV peak according to IEC 61000-4: * Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp; up to 144 kV peak according to IEC 61000-4: * Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp; up to 144 kV peak according to IEC 61000-4: * Tastientes steel 1.4305, front side sealed hermeticall		DSF EH10.17 ATV	374Z-05833	115521
Function         The sensors DSF xx10.xx AxV are suitable, in conjunction with a pole wheel, for generating square wave signals proportional to rotary speeds. They have a dynamic behavior, so that pulse generation is guaranteed down to a speed corresponding to a frequency of 0.05 Hz. The monitoring elements consist of a magnetically biased hall effect semiconductor followed by a short-circuit proof push-pull output stage. The sensor function is independent on the rotational orientation of the sensor axis.           Cartification         The DSF sensors are approved by Germanischer Lloyd (GL): Certificate 17332-00 HH           Eechnical data         Signal output         Signal output           Signal output         Signal output         Signal output         Signal output           Signal output         Signal output         Signal output         Signal output         Signal output           Frequency range         0.05 Hz         20 MHz         20 MR/L         Signal output         Signal		DSF EH10.18 AHV	374Z-05865	115732
Function         The sensors DSF xx10.xx AxV are suitable, in conjunction with a pole wheel, for generating square wave signals proportional to rotary speeds. They have a dynamic behavior, so that pulse generation is guaranteed down to a speed corresponding to a frequency of 0.05 Hz. The monitoring elements consist of a magnetically biased hall effect semiconductor followed by a short-circuit proof push-pull output stage. The sensor function is independent on the rotational orientation of the sensor axis.           Cartification         The DSF sensors are approved by Germanischer Lloyd (GL): Certificate 17332-00 HH           Eechnical data         Signal output         Signal output           Signal output         Signal output         Signal output         Signal output           Signal output         Signal output         Signal output         Signal output         Signal output           Frequency range         0.05 Hz         20 MHz         20 MR/L         Signal output         Signal	General		· · · · · · · · · · · · · · · · · · ·	
generating square wave signals proportional to rotary speed down to a speed doramic behavior, so that pulse generation is guaranteed down to a speed corresponding to a frequency of 0.05 Hz. The monitoring elements consist of a magnetically biased hall effect semiconductor followed by a short-circuit proof push-pull output stage. The sensor function is independent on the rotational orientation of the sensor axis.           Certification         The DSF sensors are approved by Germanischer Lloyd (GL): Certificate 17332-00 HH           Terchnical data         Supply voltage           Supply voltage         10 V to 30 V, protected against transient overvoltage and reverse polarity           Zurrent consumption         Max. 16 mA (without load)           * Square wave signals from push-pull stage, DC-coupled to the supply * inequitive pole = reference voltage)           * Push-pull outputs : Inax = +/- 20 mA, Uraw < 2.5 V, Uneps > Uampers 3 V * The outputs : Inax = +/- 20 mA, Uraw < 2.5 V, Uneps > Uampers 3 V * The outputs are short circuit proof and protected against reverse polarity.           *requency range         0.05 Hz 20 kHz           Coording to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4: * Glocarding to Directive 2004/108/EC, EN 61000 4-2, severity level 2           * Fast electromagnetic field: up to 30 V/m, 50% AdM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-4; severity level 3           * Fast electroid transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to 44 W peak according to IEC 61000-4-4; severity level 4           * Fast electroid transients/bursts, coupled to sensor cable with a capaciti		The concore DSE yx10 yx AxV are	witchlo in conjunction w	ith a palo wheel for
Certification         The DSF sensors are approved by Germanischer Lloyd (GL): Certificate 17332-00 HH           Technical data           Supply voltage         10 V to 30 V, protected against transient overvoltage and reverse polarity           Durrent consumption         Max. 16 mA (without load)           *         Square wave signals from push-pull stage, DC-coupled to the supply * inegative pole = reference voltage)           *         Square wave signals from push-pull stage, DC-coupled to the supply * inegative pole = reference voltage)           *         Square wave signals from push-pull stage, DC-coupled to the supply * inegative pole = reference voltage)           *         Square wave signals from push-pull stage, DC-coupled to the supply * inegative pole = reference voltage)           *         The outputs are short circuit proof and protected against reverse polarity.           *         The outputs are short circuit proof and moves: up to ±4 kV peak Electrostatic according to IEC 61000-4-3, severity level 3           *         Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-3, severity level 4           *         Fast electrical transients/bursts, osupled to sensor cable with a capacitive coupling clarbon - reference duston and wres: up to ±4 kV peak according to IEC 61000-4-4, severity level 4           *         Fast electrical transients/bursts, osupled to sensor cable with a capacitive coupling clarbon - reference duston and ge proof synthetic resin. Max. allowable pressure on sensor hea		generating square wave signals proportional to rotary speeds. They have a dynamic behavior, so that pulse generation is guaranteed down to a speed corresponding to a frequency of 0.05 Hz. The monitoring elements consist of a magnetically biased hall effect semiconductor followed by a short-circuit proof push-pull output stage. The sensor function is independent on the rotational		
Supply voltage         10 V to 30 V, protected against transient overvoltage and reverse polarity           Current consumption         Max. 16 mA (without load)           Signal output         • Square wave signals from push-pull stage, DC-coupled to the supply • negative pole = reference voltage)           Signal output         • Square wave signals from push-pull stage, DC-coupled to the supply           • regute pole = reference voltage)         • Push-pull outputs : Imax = +/- 20 mA, Ulow < 2.5 V, Uhigh > Uuephy-3.5 V           • The outputs are short circuit proof and protected against reverse polarity.         • The outputs are short circuit proof and protected against reverse polarity.           • Push-pull outputs : Imax = +/- 20 mA, Ulow < 2.5 V, Uhigh > Uuephy-3.5 V         • The outputs are short circuit proof and protected against reverse polarity.           • Push-pull outputs : Imax = +/- 20 mA, Ulow < 2.5 V, Uhigh > Uuephy-3.5 V         • The outputs are short circuit proof and protected against reverse polarity.           • Push-pull outputs : Imax = +/- 20 mA, Ulow < 2.5 V, Uhigh > Uuephy-3.5 V         • The outputs according to IEC 61000-4-3; severity level 3           • Cardiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 100 MHz according to IEC 61000-4-4; severity level 3         • Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to ±4 kV peak according to IEC 61000-4-4; severity level 4           Tousing         Stainless steel 1.4305, front side sealed hermetically and resistant against splashing water, oil, conducting carbon - or fer	Certification	The DSF sensors are approved by Germanischer Lloyd (GL):		
Durrent consumption         Max. 16 mA (without load)           Signal output         * Square wave signals from push-pull stage, DC-coupled to the supply 'negative pole = reference voltage)           * Push-pull outputs : Imax = +/- 20 mA, Ulow < 2.5 V, Uhigh > Usuppy-3.5 V           * The outputs are short circuit proof and protected against reverse polarity.           Trequency range         0.05 Hz 20 kHz           Electromagnetic         According to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:           compatibility (EMC):         * discharge into housing, cable shield and wirres: up to ±4 kV peak Electrostatic according to IEC 61000-4-2, severity level 2           * Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-4, severity level 3           * Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to ±4 kV peak according to IEC 61000-4-4, severity level 4           Housing         Stainless steel 1.4305, front side sealed hermetically and resistant against splashing water, oil, conducting carbon - or ferrous dust and salt mist. Electronic components potted in chemical and age proof synthetic resin. Max. allowable pressure on sensor head: 10 bar           Dimensions according to drawing.         Max. tightening torque: 12 Nm for M12x1         25 Nm for M14x1           35 Nm for M22x1         75 Nm for M14x1         35 Nm for M22x1         75 Nm for M24x1           36 Im for M22x1         75 Nm for M24x1         35 Nm for M22x1	Technical data			
Durrent consumption         Max. 16 mA (without load)           Signal output         * Square wave signals from push-pull stage, DC-coupled to the supply 'negative pole = reference voltage)           * Push-pull outputs : Imax = +/- 20 mA, Ulow < 2.5 V, Uhigh > Usuppy-3.5 V           * The outputs are short circuit proof and protected against reverse polarity.           Trequency range         0.05 Hz 20 kHz           Electromagnetic         According to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:           compatibility (EMC):         * discharge into housing, cable shield and wirres: up to ±4 kV peak Electrostatic according to IEC 61000-4-2, severity level 2           * Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-4, severity level 3           * Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to ±4 kV peak according to IEC 61000-4-4, severity level 4           Housing         Stainless steel 1.4305, front side sealed hermetically and resistant against splashing water, oil, conducting carbon - or ferrous dust and salt mist. Electronic components potted in chemical and age proof synthetic resin. Max. allowable pressure on sensor head: 10 bar           Dimensions according to drawing.         Max. tightening torque: 12 Nm for M12x1         25 Nm for M14x1           35 Nm for M22x1         75 Nm for M14x1         35 Nm for M22x1         75 Nm for M24x1           36 Im for M22x1         75 Nm for M24x1         35 Nm for M22x1	Supply voltage	10 V to 30 V, protected against tran	sient overvoltage and rev	verse polarity
Signal output       • Square wave signals from push-pull stage, DC-coupled to the supply         • 'negative pole = reference voltage)       • 'negative pole = reference voltage)         • Push-pull outputs : Imax = 4+.20 mA, Ulow < 2.5 V, Unigh > Usupply-3.5 V         • The outputs are short circuit proof and protected against reverse polarity.         0.05 Hz 20 kHz         Electromagnetic         coording to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:         • discharge into housing, cable shield and wires: up to ±4 kV peak Electrostatic according to IEC 61000-4-2, severity level 2         • Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-3, severity level 3         • Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to ±4 kV peak according to IEC 61000-4-4, severity level 4         fousing       Stainless steel 1.4305, front side sealed hermetically and resistant against splashing water, oil, conducting carbon - or ferrous dust and salt mist. Electronic components potted in chemical and age proof synthetic resin. Max. allowable pressure on sensor head: 10 bar         Dimensions according to field wheel of a magnetically permeable material (e.g. Steel 1.0036)         • Max. tightening torque: 12 Nm for M12x1 50 Nm for M14x1 35 Nm for 5/8'-18 UNF-2A         Requirements for pole wheel       • Toothed wheel of a magnetically permeable material (e.g. Steel 1.0036)         • Minimum tooth width of 10 mm       Side offset < 0.2 mm	Current consumption			
Push-pull outputs : Imax = +/. 20 mA, Ulow < 2.5 V, Unigh > Usupply-3.5 V         Push-pull outputs : Imax = +/. 20 mA, Ulow < 2.5 V, Unigh > Usupply-3.5 V         Erequency range       0.05 Hz 20 kHz         Electromagnetic       According to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:         compatibility (EMC): <ul> <li>According to Directive 2004/108/EC, EN 61000 4-2, severity level 2</li> <li>Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-3, severity level 3</li> <li>Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to ±4 kV peak according to IEC 61000-4-4, severity level 4</li> </ul> Housing     Stainless steel 1.4305, front side sealed hermetically and resistant against splashing water, oil, conducting carbon- or ferrous dust and salt mist. Electronic components potted in chemical and age proof synthetic resin. Max. allowable pressure on sensor head: 10 bar         Max. tightening torque:       12 Nm for M12x1       25 Nm for M14x1         35 Nm for M22x1       75 Nm for M24x1         35 Nm for M22x1       75 Nm for M24x1         35 Nm for M22x1       75 Nm for M24x1         36 Tothed wheel of a magnetically permeable material (e.g. Steel 1.0036)       Minimum tooth width of 10 mm         Side offset < 0.2 mm	•	<ul> <li>Square wave signals from</li> </ul>		oled to the supply
The outputs are short circuit proof and protected against reverse polarity.     Trequency range     0.05 Hz 20 kHz     According to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:     discharge into housing, cable shield and wires: up to ±4 kV peak Electrostatic     according to IEC 61000-4-2, severity level 2     Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of     1 MHz to 1000 MHz according to IEC 61000-4-3, severity level 3     Fast electrical transients/bursts, coupled to sensor cable with a capacitive     coupling clamp: up to ±4 kV peak according to IEC 61000-4-3, severity level 4     Stainless steel 1.4305, front side sealed hermetically and resistant against     splashing water, oil, conducting carbon- or ferrous dust and salt mist. Electronic     components potted in chemical and age proof synthetic resin. Max. allowable     pressure on sensor head: 10 bar     Dimensions according to drawing.     Max. tightening torque:     12 Nm for M12x1 25 Nm for M14x1     35 Nm for M12x1 75 Nm for M14x1     35 Nm for M12x1 75 Nm for M14x1     35 Nm for M22x1 75 Nm for M14x1     35 Nm for 5/8''-18 UNF-2A Requirements for pole wheel     Air gap between sensor and     pole wheel     Air gap between pole wheel (         Air gap between pole wheel (         Madule 3: 0.226 mm         Module 2: 0.226 mm         Module 2: 0.226 mm         Module 2: 0.226 mm         Module 2: 0.226 mm         Module 4 and coarser: 0.24.5 mm         Module 4 and coarser: 0.24.5 mm         Module 4 and coarser: 0.24.5 mm	Signal Output			
Frequency range         0.05 Hz         1 20 kHz           Electromagnetic         According to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:           compatibility (EMC): <ul></ul>				
Electromagnetic       According to Directive 2004/108/EC, EN 61000 6-2 and 61000-6-4:         compatibility (EMC): <ul> <li>discharge into housing, cable shield and wires: up to ±4 kV peak Electrostatic according to IEC 61000-4-2, severity level 2</li> <li>Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-3, severity level 3</li> <li>Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to ±4 kV peak according to IEC 61000-4-4, severity level 4</li> </ul> Housing         Stainless steel 1.4305, front side sealed hermetically and resistant against splashing water, oil, conducting carbon- or ferrous dust and salt mist. Electronic components potted in chemical and age proof synthetic resin. Max. allowable pressure on sensor head: 10 bar Dimensions according to drawing.           Max. tightening torque:              12 Nm for M12x1 25 Nm for M14x1 35 Nm for M24x1 35 Nm for M22x1 75 Nm for M24x1 35 Nm for M24x1 35 Nm for M24x1 35 Nm for M24x1 35 Nm for M22x1 75 Nm for M24x1 35 Nm for 50 Nm for M24x1 35 Nm for M24x1 35 Nm for S8"-18 UNF-2A           Requirements for pole wheel <ul> <li>Toothed wheel of a magnetically permeable material (e.g. Steel 1.0036)</li> <li>Minimum tooth width of 10 mm</li> <li>Side offset &lt; 0.2 mm</li> <li>Eccentricity &lt; 0.2 mm</li> <li>Eccentricity &lt; 0.2 mm</li> <li>Module 1: 0.21.0 mm</li> <li>Module 2: 0.22.5 mm</li> <li>Module 2: 0.22.5 mm</li> <li>Module 4 and coarser: 0.24.5 mm</li> <li>Module 4 and coarser:</li></ul>	-	•	in proof and protected ag	ainst reverse polarity.
<ul> <li>discharge into housing, cable shield and wires: up to ±4 kV peak Electrostatic according to IEC 6 1000-4-2, severity level 2</li> <li>Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 6 1000-4-3, severity level 3</li> <li>Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to ±4 kV peak according to IEC 61000-4-4, severity level 4</li> <li>Stainless steel 1.4305, front side sealed hermetically and resistant against splashing water, oil, conducting carbon- or ferrous dust and salt mist. Electronic components potted in chemical and age proof synthetic resin. Max. allowable pressure on sensor head: 10 bar Dimensions according to drawing.</li> <li>Max. tightening torque: 12 Nm for M12x1 25 Nm for M14x1 35 Nm for M16x1 50 Nm for M18x1 75 Nm for M24x1 35 Nm for 5/8"-18 UNF-2A</li> <li>Requirements for pole wheel</li> <li>Toothed wheel of a magnetically permeable material (e.g. Steel 1.0036)</li> <li>Minimum tooth width of 10 mm</li> <li>Side offset &lt; 0.2 mm</li> <li>Eccentricity &lt; 0.2 mm</li> <li>Module 1: 0.21.0 mm</li> <li>Module 2: 0.22.5 mm</li> <li>Module 2: 0.22.5 mm</li> <li>Module 2: 0.22.5 mm</li> <li>Module 2: 0.22.5 mm</li> <li>Module 2: 0.24.5 mm</li> <li>Module 4 and coarser: 0.24.5 mm</li> </ul>		0.05 Hz 20 kHz	EN 61000 6 0 and 6100	20.6.4:
according to IEC 61000-4-2, severity level 2         according to IEC 61000-4-2, severity level 2         Radiated electromagnetic field: up to 30 V/m, 50% AM, 1 kHz in the range of 1 MHz to 1000 MHz according to IEC 61000-4-3, severity level 3         Fast electrical transients/bursts, coupled to sensor cable with a capacitive coupling clamp: up to ±4 kV peak according to IEC 61000-4-4, severity level 4         Housing       Stainless steel 1.4305, front side sealed hermetically and resistant against splashing water, oil, conducting carbon- or ferrous dust and salt mist. Electronic components potted in chemical and age proof synthetic resin. Max. allowable pressure on sensor head: 10 bar         Dimensions according to drawing.       Max. tightening torque: 12 Nm for M12x1         12 Nm for M12x1       25 Nm for M14x1         35 Nm for M16x1       50 Nm for M14x1         35 Nm for 5/8'-18 UNF-2A       Toothed wheel of a magnetically permeable material (e.g. Steel 1.0036)         Minimum tooth width of 10 mm       Side offset < 0.2 mm				
splashing water, oil, conducting carbon- or ferrous dust and salt mist. Electronic components potted in chemical and age proof synthetic resin. Max. allowable pressure on sensor head: 10 bar Dimensions according to drawing.         Max. tightening torque:       12 Nm for M12x1       25 Nm for M14x1         35 Nm for M16x1       50 Nm for M18x1         75 Nm for M22x1       75 Nm for M24x1         35 Nm for 5/8"-18 UNF-2A         Requirements for pole wheel         Air gap between sensor and pole wheel         Air gap between sensor and pole wheel         Maxue       0.225 mm         Module 1:       0.225 mm         Module 2:       0.225 mm         Module 3:       0.235 mm         Module 4 and coarser:       0.24.5 mm         Protection class       IP68 (head) and IP of the connector according to the list         /ibration immunity       5 g in the range of 5 2000 Hz		<ul> <li>Radiated electromagnetic 1</li> <li>1 MHz to 1000 MHz accord</li> <li>Fast electrical transients/bicoupling clamp: up to ±4 k</li> </ul>	ield: up to 30 V/m, 50% / ding to IEC 61000-4-3, se ursts, coupled to sensor of V peak according to IEC	everity level 3 cable with a capacitive 61000-4-4, severity level 4
12 Nm for M12x1       25 Nm for M14x1         35 Nm for M16x1       50 Nm for M18x1         75 Nm for M22x1       75 Nm for M24x1         35 Nm for 5/8"-18 UNF-2A       *         Requirements for pole wheel       *       Toothed wheel of a magnetically permeable material (e.g. Steel 1.0036)         *       Minimum tooth width of 10 mm       *         *       Side offset < 0.2 mm	Housing	splashing water, oil, conducting carl components potted in chemical and pressure on sensor head: 10 bar	oon- or ferrous dust and s	salt mist. Electronic
Requirements for pole wheel <ul> <li>Toothed wheel of a magnetically permeable material (e.g. Steel 1.0036)</li> <li>Minimum tooth width of 10 mm</li> <li>Side offset &lt; 0.2 mm</li> <li>Eccentricity &lt; 0.2 mm</li> </ul> Air gap between sensor and pole wheel       Air gap between pole wheel (involute gear) and sensor housing: <ul> <li>Module 1:</li> <li>0.21.0 mm</li> <li>Module 2:</li> <li>0.23.5 mm</li> <li>Module 4 and coarser:</li> <li>0.24.5 mm</li> </ul> Insulation       Housing and electronics galvanically separated (500 V/50 Hz/ 1 min)    Protection class IP68 (head) and IP of the connector according to the list J in the range of 5 2000 Hz		12 Nm for M12x1 35 Nm for M16x1 75 Nm for M22x1	50 Nm for M18x1	
Air gap between sensor and pole wheel       Air gap between pole wheel (involute gear) and sensor housing:         *       Module 1:       0.21.0 mm         *       Module 2:       0.22.5 mm         *       Module 3:       0.23.5 mm         *       Module 4 and coarser:       0.24.5 mm         nsulation       Housing and electronics galvanically separated (500 V/50 Hz/ 1 min)         Protection class       IP68 (head) and IP of the connector according to the list         /ibration immunity       5 g in the range of 5 2000 Hz	Requirements for pole wheel	<ul> <li>Toothed wheel of a magnetically permeable material (e.g. Steel 1.0036)</li> <li>Minimum tooth width of 10 mm</li> <li>Side offset &lt; 0.2 mm</li> </ul>		
Module 2:       0.22.5 mm         Module 3:       0.23.5 mm         Module 4 and coarser:       0.24.5 mm         nsulation       Housing and electronics galvanically separated (500 V/50 Hz/ 1 min)         Protection class       IP68 (head) and IP of the connector according to the list         /ibration immunity       5 g in the range of 5 2000 Hz	Air gap between sensor and	Air gap between pole wheel (involut		ing:
Protection classIP68 (head) and IP of the connector according to the list/ibration immunity5 g in the range of 5 2000 Hz	pole wheel	<ul> <li>Module 2: 0.22.5</li> <li>Module 3: 0.23.5</li> </ul>	mm mm	
Protection classIP68 (head) and IP of the connector according to the list/ibration immunity5 g in the range of 5 2000 Hz	nsulation			
/ibration immunity 5 g in the range of 5 2000 Hz	Protection class			
	Shock immunity	50 g for 20 ms, half sine wave		

### DSF xx10.xx AxV

Single Channel Hall Effect Speed Sensor

Temperature	Operating temperature of the sensor: Version H: -40° +125°C Version T: -25° +85°C	
Reliability	eliability The following MTTF and failure rates were computed based on Siemens SN29500 and valid for an operating temperature of 60°C. They include the electrical failure modes but not the mechanical.	
	MTTF [hours] Failure rate [FIT] 3'177'000 314.8	
Connection type		
	Sensor type	Jaquet part number of connector
	DSF 1210.00 AHV	820A-35921
	DSF 1210.00 ATV	820A-35921
	DSF 1210.01 AHV	According to sensor drawing
	DSF 1410.00 AHV	820A-35731
	DSF 1410.00 AHV S148 IG=100mm	820E-31142
	DSF 1410.00 ATV	820A-35731
	DSF 1410.00 ATV S148/1 IG=60mm	820A-35731
	DSF 1410.02 AHV L=100mm	820E-31142
	DSF 1410.02 AHV L=140mm	820E-31142
	DSF 1410.02 AHV L=220mm	820E-31142
	DSF 1410.02 AHV L=70mm	820E-31142
	DSF 1410.03 AHV	820P-36090
	DSF 1610.00 AHV	820A-35731
	DSF 1610.00 ATV	820A-35731
	DSF 1610.00 ATV S167	820A-35731
	DSF 1610.02 AHV	820E-31142
	DSF 1610.12 ATV L=70mm	820E-31142
	DSF 1810.00 AHV	820A-35731
	DSF 1810.00 A1HV	820A-37243
	DSF 1810.00 ATV	820A-35731
	DSF 1810.02 ATV	820A-36648
	DSF 1810.04 AHV	820E-36488
	DSF 1810.05 AHV	820E-36488
	DSF 1810.08 AHV	820P-36090
	DSF 2210.00 AHV	820A-35731
	DSF 2210.00 ATV	820A-35731
	DSF 2210.03 ATV	820E-31142
	DSF 2210.04 ATV	820E-31142
	DSF EH10.07 A1HV	820A-36648
	DSF EH10.08 A1HV	820A-36648
	DSF EH10.17 ATV	830E-37864
	DSF EH10.18 AHV	385E-64991

## Connectors

Jaquet connector code	Protection Class	Manufacturer code
385E-64991	IP66	mates with straight plug MS 3106A-10SL-3S
820A-35731	IP50	ERA-2S-304-CLL (LEMO)
820A-35732	IP50	FFA-2S-304-CLA L42 (LEMO)
820A-35921	IP50	FFA-0S-304-CLA-L42 (LEMO)
820A-36648	IP67	M12x1 D=16/14,5x17,5 (ESCHA)
820A-37243	IP50	FFA-2S-304-CLA-L82 (LEMO)
820E-31142	IP67	MS3102A-10SL-3P/H 097 (MIL-C-5015)
820E-36488	IP67	MS3102A-10SL-3P-B (MIL-C-5015)

## DSF xx10.xx AxV

Single Channel Hall Effect Speed Sensor

820E-37864	IP67	MAC-3MR-2-SS
820P-36090	IP65	GSA 3000 (Hirschmann)

Further Information	1	
Safety	All mechanical installations must be carried out by an expert. General safety requirements have to be met.	
Connection	The sensors must be connected according to sensor drawing. Sensor wires are susceptible to radiated noise. Therefore, the following points have to be considered when connecting a sensor: The sensor wires must be laid as far as possible from large electrical machines. They must not run parallel in the vicinity of power cables. The maximum permissible cable length is dependent upon the sensor voltage, the cable routing, along with cable capacitance and inductance. However, it is advantageous to keep the distance between sensor and instrument as short as possible. The sensor cable may be lengthened via a terminal box located in an IP20 connection area in accordance with EN 60529.	
Installation	<ul> <li>IP20 connection area in accordance with EN 60529.</li> <li>The sensor has to be aligned to the pole wheel according to the sensor drawing independent of its rotational orientation. Deviations in positioning may affect the performance and decrease the noise immunity of the sensor. During installation, the smallest possible pole wheel to sensor gap should be set. The gap should however be set to prevent the face of the sensor ever touching the pole wheel. A sensor should be mounted with the middle of the face side over the middle of the pole wheel. Dependent upon the wheel width, a certain degree of axial movement is permissible. However, the middle of the sensor must be at minimum in a distance of 3 mm from the edge of the pole wheel under all operating conditions.</li> <li>A solid and vibration free mounting of the sensor is important. Eventual sensor vibration relative to the pole wheel can induce additional output pulses.</li> <li>The sensors are insensitive to oil, grease etc. and can be installed in arduous conditions. During installation, the smallest possible pole wheel to sensor gap should be set. The gap should however be set to prevent the face of the sensor ever touching the pole wheel to the pole wheel can induce additional output pulses.</li> </ul>	
Maintenance	Product cannot be repaired.	
Transport	Product must be handled with care to prevent damage of the front face.	
Storage	Product must be stored in dry conditions. The storage temperature corresponds to the operation temperature.	
Disposal	Product must be disposed of properly, it must not be disposed as domestic waste.	

#### **CONTACT US**

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