

The purpose of this document is to identify the main input data required by 5LM for dimensioning a position sensor. This form is not necessarily exhaustive but constitute a support document to define the main requirements at the beginning of the collaboration.

Please return this completed form with the information you have to your usual 5LM contact or to contact@5LM.fr.

Should some of requirements being free, unknown or hardly quantified by customer, 5LM can provide assistance to determine or propose such important input data.

The cells colored as follows have to be filled (checkbox, drop-down list, text box):



1 Identification



Society		
Project		
Contact	Name	
	Phone	
	E-mail	
Date		

2 Applicable standards

Appropriate standards to be complied with:

3 Performance

3.1 Motion type

<input type="checkbox"/>	Angular		<input type="checkbox"/>	Linear	
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3.2 Functional

	<i>Angular</i>	<i>Linear</i>
Range, functional	degree	mm
Range, mechanical	degree	mm
Maximum speed	rpm	m/s
Axial misalignment	mm	-
Radial misalignment	mm	
Accuracy required	°	mm

Note: only one column shall be filled

If required accuracy isn't constant over angular range and other conditions (e.g. temperature), precise the accuracy curve(s) references here below:

3.3 Dynamic requirements

	<i>Angular</i>	<i>Linear</i>
Moment of inertia / moving mass allowed	kg.m ²	kg
Acceleration / Deceleration capability need	rad/s ²	m/s ²

Note: only one column shall be filled

4 Input excitation signal

Depending on transducer source type:

<i>Excitation type</i>	<i>DC</i>	<i>AC</i>
Supply voltage	V _{DC}	V _{RMS}
Frequency	-	Hz
Allowed mean current consumption	mA _{DC}	mA _{RMS}
Or allowed input impedance (Minimum)	Ω	Ω

Note: only one column shall be filled

5 Output signals

Depending on transducer output signals type, expected:

<i>Output type</i>	<i>Analog</i>		<i>Digital</i>
	<i>DC</i>	<i>AC</i>	
Evolution of signal amplitude			Bites
Number of signals			
2 differential signals?			
Floating or common point?			
Ratio (O/I max voltages) or sensitivity			V _{DC} Min/Max
Phase shift (max I/O)	-	° (elec)	ms
Absolute position?			
Multi-speed? (if not an absolute position)			-

Note: only one column shall be filled

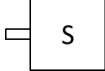



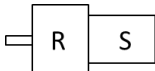
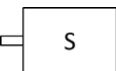
6 Signal processing configuration

Analog / Digital electronic		
Load impedance, for each output (if analog output)	kΩ (at input frequency)	
Interface protocol (if digital output)	(RS-232, RS-422 ; SPI, SSI, BiSS-C, ...)	

If a standard signal processing unit is used (ADC, DSP, RTD, μC...), precise its reference here below and attach associated data sheet and technical documents. Else, precise the main properties here below:

7 Sensor configuration

If a design is already intended, precise the matching items (design requirements):

<input type="checkbox"/>	Housed		<input type="checkbox"/>	Frameless	
<input type="checkbox"/>	Internal rotor		<input type="checkbox"/>	Outrunner rotor	
<input type="checkbox"/>	Gearbox		<input type="checkbox"/>	Direct drive	

Or else:

<input type="checkbox"/>	No specific design requirement for the sensor
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8 Mechanical interface

Dimension Space envelop	
Weight	kg Max
Bonding resistance	mΩ Max
Marking identification	

Mechanical interface drawing to be attached:

Precise all the external loads applied to the sensor (forces on the shaft, on the case, axial loads, radial loads/moments or their point of application).

Attach a detailed description (especially with schemes) if possible.

9 Electrical interface

Connector		
Wires		

Electrical interface drawing to be attached

10 Cooling conditions

<input type="checkbox"/>	Air natural convection	<input type="checkbox"/>	Significant conductive surface
<input type="checkbox"/>	Other (forced cooling, immersed...)		

11 Environment

Select the environment requirements applicable to the sensor and precise for each one the detailed specification. Attach specific documents accordingly if necessary.

<input type="checkbox"/>	Operating ambient temperature	Temperature min	°C
		Temperature Max	°C
<input type="checkbox"/>	Other temperature requirements		
<input type="checkbox"/>	Solid particle and liquid ingress withstand levels (IP)		
<input type="checkbox"/>	Corrosive atmosphere (humidity, salt fog...)		
<input type="checkbox"/>	Fluid compatibility		
<input type="checkbox"/>	Vibrations / Shocks withstand levels		
<input type="checkbox"/>	Electromagnetic compatibility		
<input type="checkbox"/>	Ambient pressure/altitude		

12 Life and reliability

Duty cycle to be considered		
Life expectancy		
MTBF (Mean Time Between Failures)		

13 Other

Precise here below any other requirements and comments not dealt with previous sections of this document: