LMTS **Torque Flange**

Range 50 Nm to 10.000 Nm

Rotational speed up to 15.000 rpm

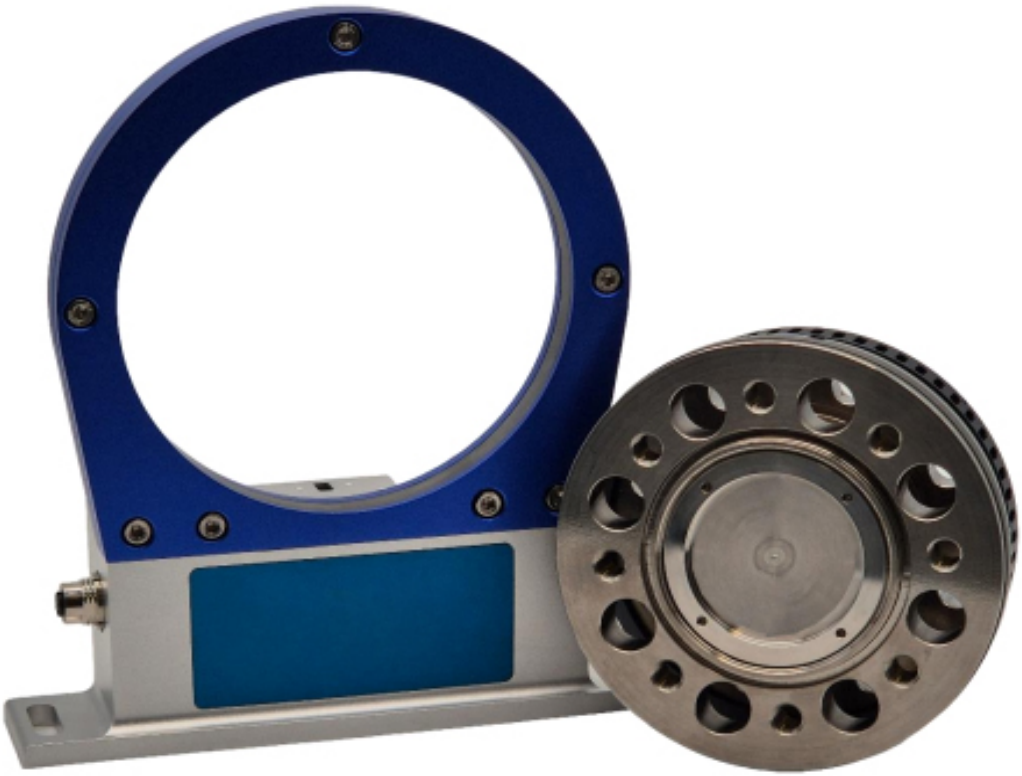

Table of content

1. Instruction of use

Thank you for choosing our sensor products. You have selected a high-quality and extremely precise torque measuring system. These instructions contain all the necessary information for you, as well as for assembly, operating, and maintenance personnel, to ensure proper use of your measuring system under the intended conditions.

This document includes important details to ensure functional and safe installation and operation. For these reasons, the operating instructions must always be readily available at the location where the torque measuring system is in use.

We reserve the right to make changes as part of product improvements. We strive to maintain compatibility with previous versions. All information is provided without guarantee and is subject to technical modifications.

2. Customer Service Address

Lanrin Measurement Instrument

Tel: 800-881101

Email: sale@lanrin.com

3. Warranty

The warranty is valid for 12 months from the date of delivery from the factory, provided the product is used as intended and in compliance with the maintenance and calibration regulations, as well as the general terms and conditions.

4. Scope of delivery

The torque sensor system consists of a calibrated sensor module integrated into the housing, as well as an integrated processing unit. Additionally, a cable is provided. Please ensure that only the supplied equipment is used to operate the sensor.

5. Safety

Please note the enclosed sheet on the warning notices.

Care must be taken to ensure that the flat surfaces of the shaft are clean when installing the sensor.

- The screws must be tightened crosswise in several stages to the specified nominal torque.
- When fastening, no force should be exerted on the housing in the axial direction.
- The sensor is not designed to function as a support bearing.

6. Intended use

The sensor is exclusively designed for measuring torque and/or speed.

The respective load range can be found in the data sheet. It is not permitted to exceed the maximum torque range.

Intended use also includes compliance with the manufacturer's specifications for commissioning, assembly, operation, environmental, and maintenance conditions. Any use beyond these parameters is considered improper. The manufacturer is not liable for any resulting damage caused by such improper use.

7. Recalibration and duration of use

A factory recalibration should be carried out annually.

Refer to the relevant label on the sensor for details. This recalibration can be performed quickly and easily by Melectric Systems GmbH. Please contact us for assistance.
When used within the limits of the intended application and with regular calibration, the service life of the sensor exceeds one year.

8. Structural changes

Unauthorized modifications or changes to the torque measuring system are strictly prohibited for safety reasons and will result in the immediate voiding of warranty claims.

9. Assembly and Disassembly

Care must be taken to ensure that the flat surfaces of the flanges are clean when installing the sensor.

10. The screws must be tightened crosswise in several stages to the specified nominal torque.
11. No force should be exerted on the housing in the axial direction during fastening.
12. The sensor is not designed to function as a support bearing.

13. Disposal

For disposal, the device must be returned to:

Lanrin Measurement Instrument

Tel: 800-881101

Email: sale@lanrin.com

14. Typical Values

Description	Unit	Value									
Torque Measurement System - LMTS											
Nominal Torque in kNm		0,05	0,1	0,2	0,3	0,5	1	2	3	5	10
Nominal values											
Analog Voltage	V	+/-10V									
Analog Current	mA	4-20mA									
CAN BUS		Optional – please contact sales									
Nominal sensor gain tolerance		0,1 %FS									
Output Signal @0Nm											
Analog Voltage		0V									
Analog Current		12mA									
Nominal output Signals											
Analog Voltage											
Positive nominal Torque		+10V / +5V									
Negative nominal Torque		-10V / -5V									
Analog Current											
Positive nominal Torque		4mA									
Negative nominal Torque		20mA									
Nominal cutoff frequency (-3dB)		500 Hz									
Reference Temperature		23°C									
Rotational speed in rpm		15.000			10.000			8.500		6.500	5.500
Linearity and Hysteresis	% FS	0,05									
Repeatability	% FS	0,05									
sampling Frequency	Hz	500 Hz									
Signal Resolution	Bit	16bit signal resolution									
Drift on Zero Singal by Temperature	%/10K	< 0,1									
Drift on Output Signal by Temperature	%/10K	< 0,1									
Storage Temperature	°C	-10 to 60									
Maximum Temperature range	°C	-10 to 60									
Power consumption	mA	500 mA									
Power Supply	V	12V/24V									
Type	Value										
Nominal Torque in kNm		0,05	0,1	0,2	0,3	0,5	1	2	3	5	10
Load limits	%Mnom	150%				150%					
Ultimate Limit Torque	%Mnom	200%				200%					
Permissible stress under dynamic load	% Mnom	70 (peak – peak)				70 (peak – peak)					

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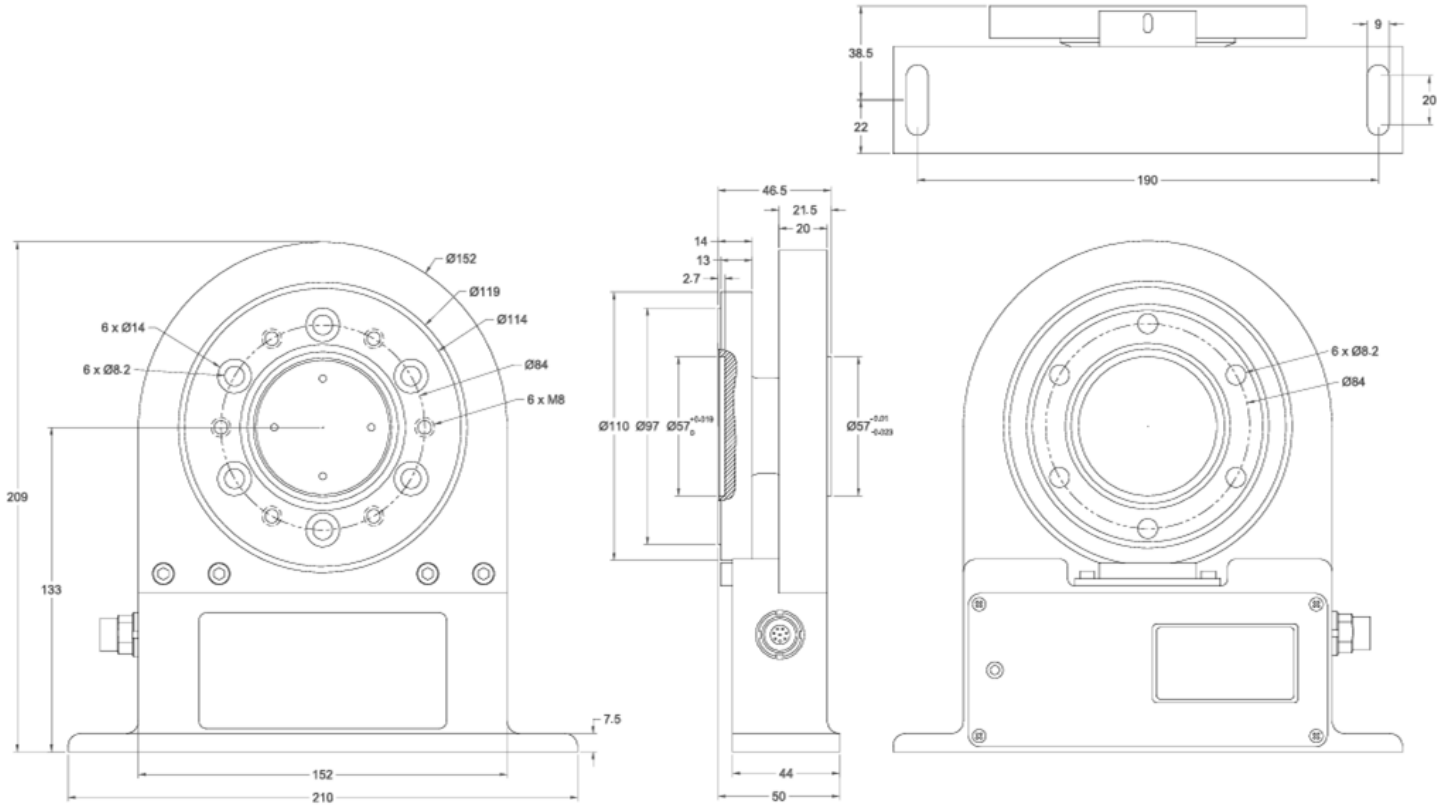
Limits on parasitic loads										
Nominal Torque (kNm)	0,05	0,1	0,2	0,3	0,5	1	2	3	5	10
Axial limit Force (kN)	4	4,5	5	7	10	15	24	28	48	64
Lateral limit Force (kN)	1	1,2	1,5	2	3	3,5	4	5	9	14
Moment limit (Nm)	40	50	80	120	160	180	450	480	650	950

Any irregular stress (bending moment, transverse, or longitudinal force exceeding the nominal torque) is permitted up to the specified limit only if none of the other stresses occur simultaneously. If multiple stresses are present, the limit values must be reduced. For example, if 30% of the bending moment limit and the transverse force limit are reached, only 40% of the longitudinal force limit is permissible, and the nominal torque must not be exceeded.

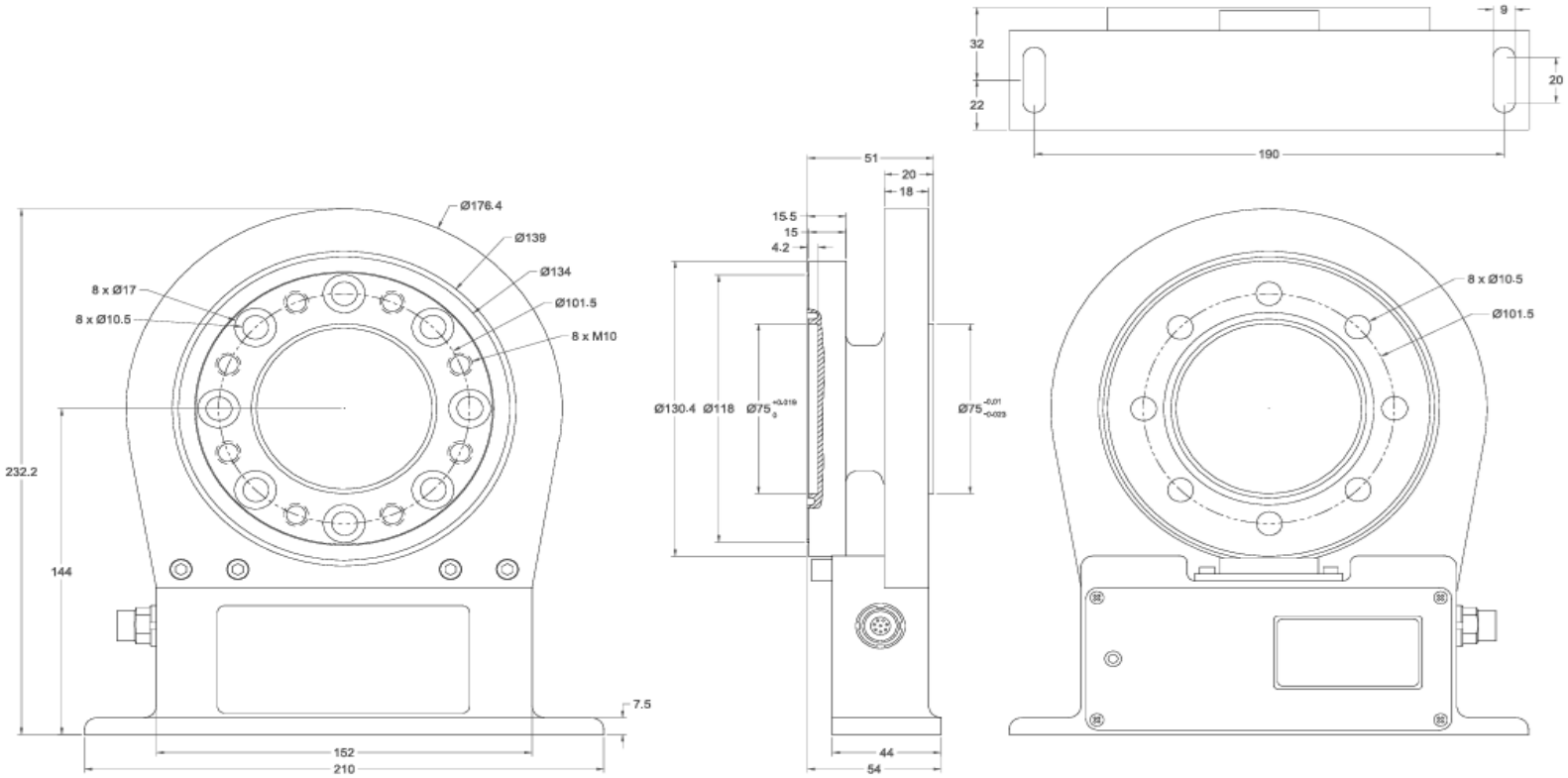
15. Dimension

Sensor Dimension for 0,05/ 0,1/ 0,2 kNm



All Units in mm

Sensor Dimension for 0,3/ 0,5/ 1kNm



All Units in mm

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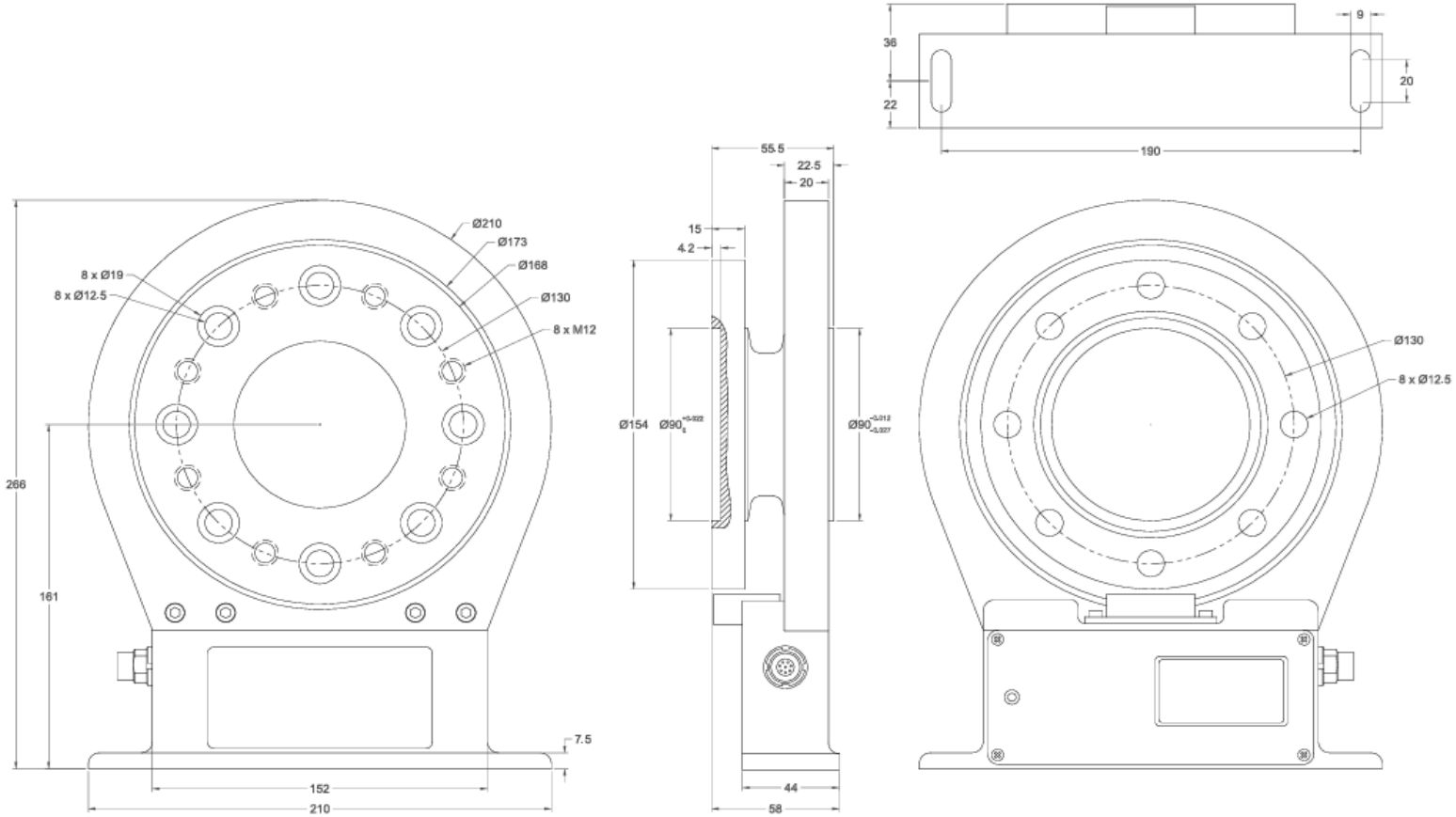
Sensor Dimension for 2kNm/ 3kNm



All Units in mm

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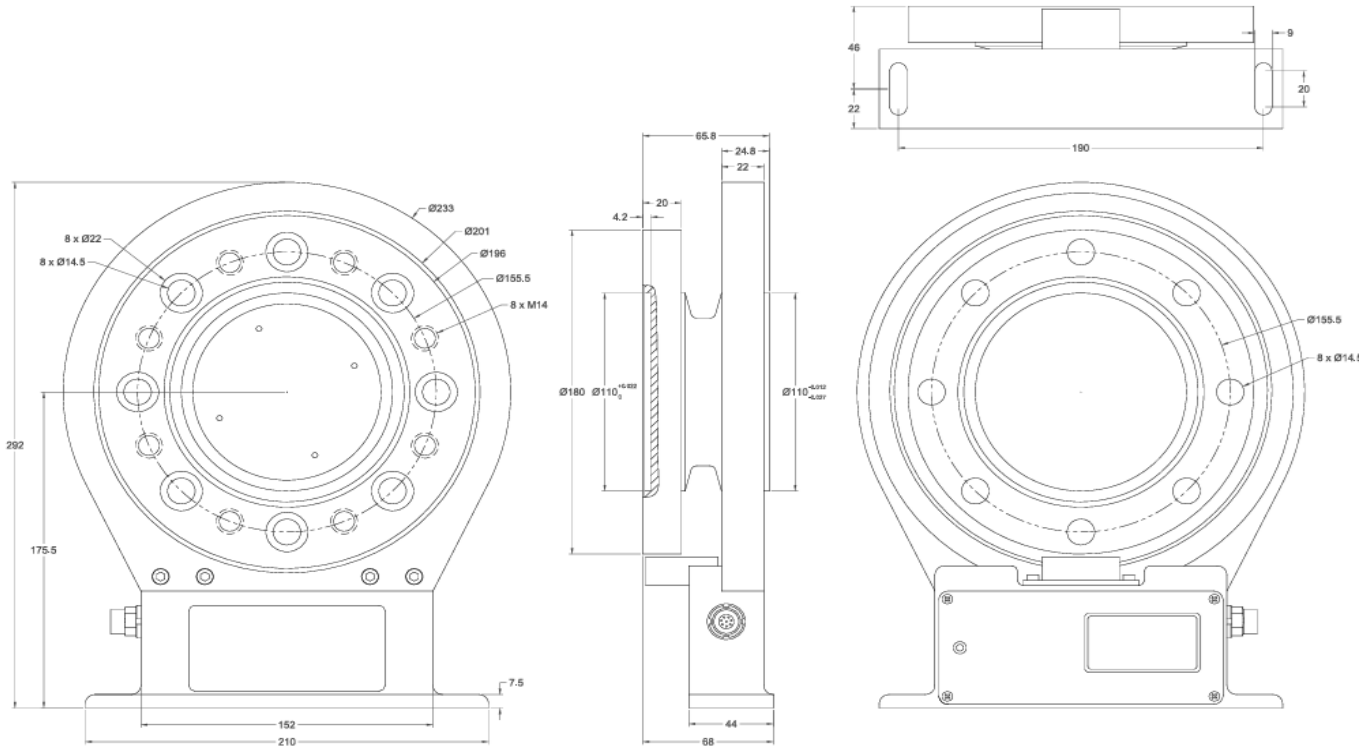
Sensor Dimension for 5kNm



All Units in mm

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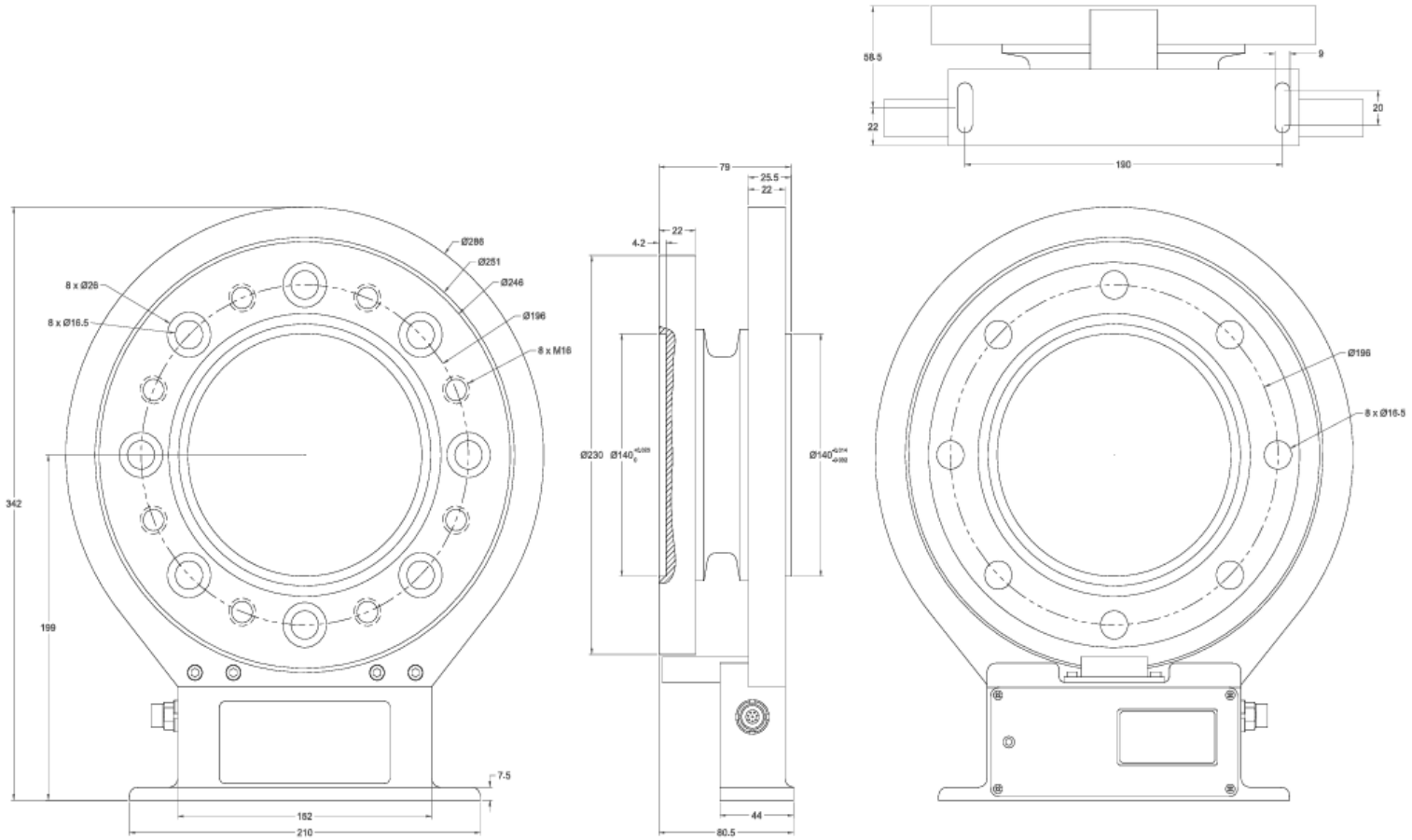
Sensor Dimension for 10kNm



All Units in mm

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16. Order Codes

LMTS – **0,05 to 10kNm**				
	Measurement Range in kNm			
	005	including 3m cable		
	01	including 3m cable		
	02	including 3m cable		
	03	including 3m cable		
	05	including 3m cable		
	1	including 3m cable		
	2	including 3m cable		
	3	including 3m cable		
	5	including 3m cable		
	10	including 3m cable		
		Torque Sensor Output		**Angle Sensor Output**
		1	-5V to +5V	0- 5 V
		2	-10V to +10V	0 - 10 V
		3	4 to 20 mA	4 - 20 mA
			Supply Voltage	
			1	12 V
			2	24 V

LMTS -				