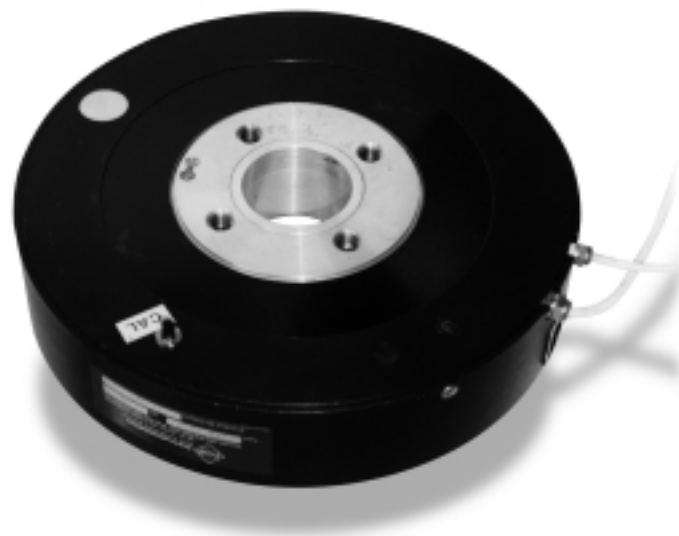


# FCA 7300

SERIES

Measurement  
Steering  
Wheel

*steering-wheel torque/angle/velocity measurement system*





# **FCA 7300**

**SERIES**

## **Measurement Steering Wheel**

### **FEATURES**

- **ON-BOARD ELECTRONICS**
- **FIVE SIMULTANEOUS ANALOGUE OUTPUTS**  
**2 TORQUES**  
**2 ANGLES**  
**ANGULAR VELOCITY**
- **HIGHEST ACCURACY AVAILABLE ON THE MARKET**
- **BUILT-IN SHUNT CALIBRATION FUNCTION**
- **LOW FITTING DEPTH**
- **UNIVERSAL - FITS ALL ROAD VEHICLES**
- **RAPIDLY INSTALLED VIA MOUNTING ADAPTERS**
- **3000 POINT OPTICAL CODER FOR ANGLE/ VELOCITY MEASUREMENT**
- **ANGULAR /VELOCITY SIGNALS PROCESSED INTERNALLY TO GIVE ANALOGUE OUTPUTS - NO NEED FOR EXTERNAL TTL ELECTRONICS**
- **10 X F.S. TORQUE OVERLOAD PROTECTION**
- **STEERABILITY MAINTAINED AT RUPTURE**
- **UNIQUE REMOTE DATA ACQUISITION TRIGGER FEATURE**
- **OPTIONAL ADJUSTABLE STEERING STOPS AVAILABLE (SELF FOLDING FOR SAFETY)**

# FCA 7300

SERIES

The FCA 7300 series of measurement steering wheels are the most accurate available on the market today. This new generation of transducers incorporates numerous technological innovations, such as :

Full on-board conditioning electronics, with built-in angle reset, torque calibration function and a facility to send a start trigger signal to the remote data acquisition system.

Optical coder processing electronics are built-in - there is no need for external TTL electronics

Five simultaneous analogue output signals, two torque channels, two angle channels and one angular velocity channel

Bearing friction influence on the torque measurement has been eliminated, allowing high accuracy low torque measurements

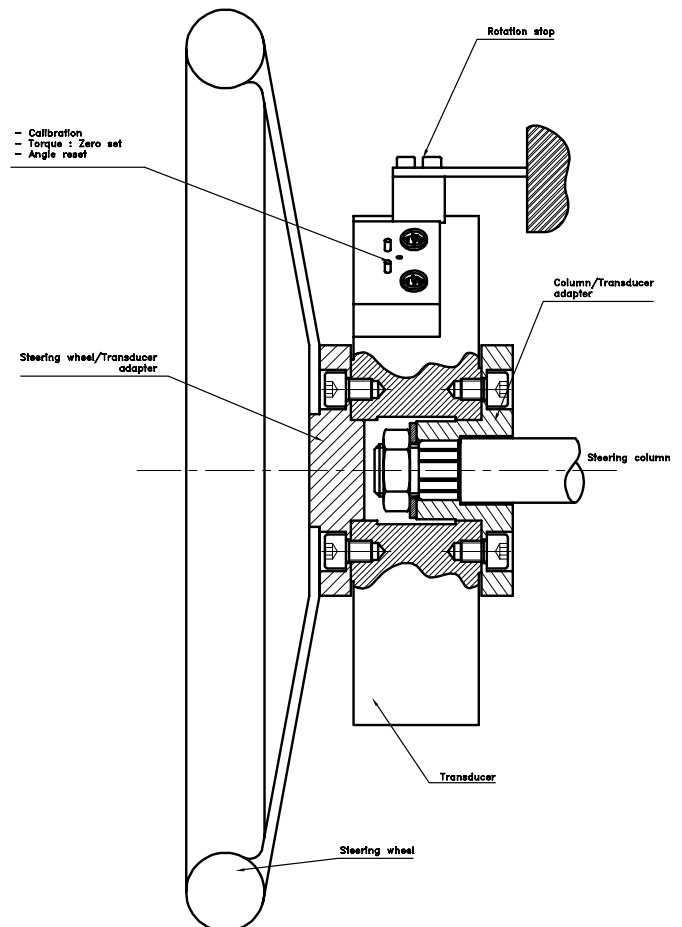
Low profile design retains the same driving conditions as with standard steering wheels.

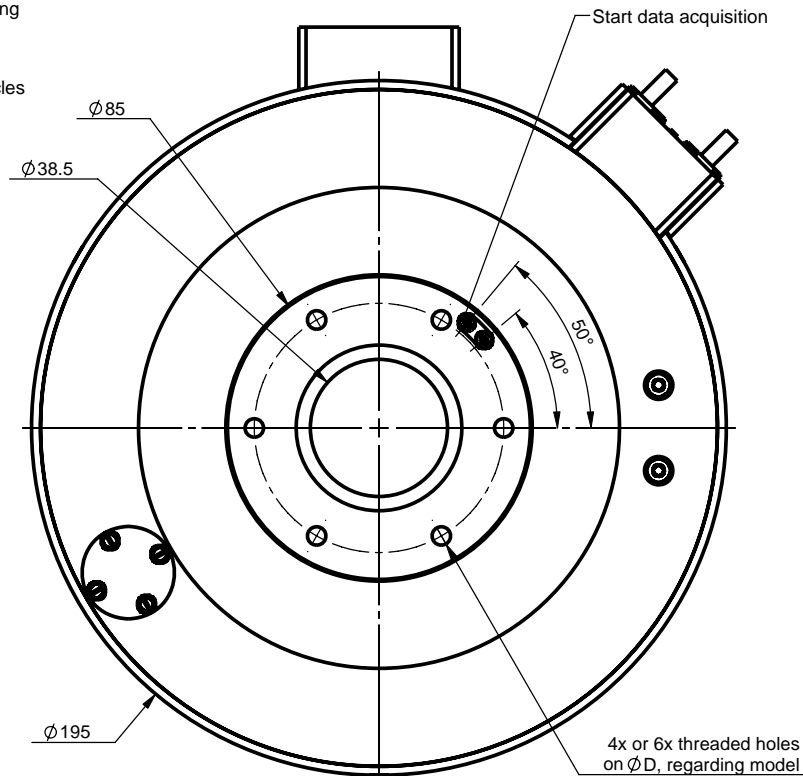
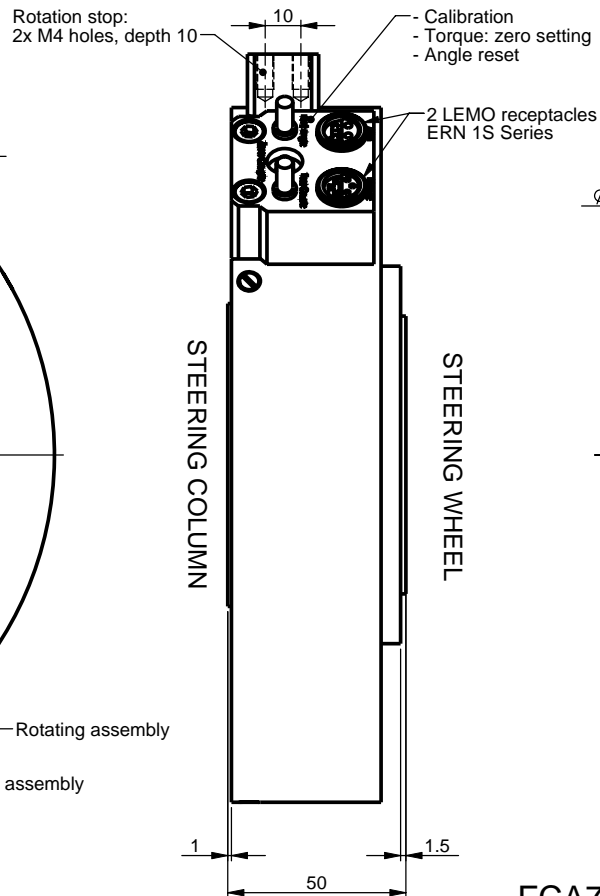
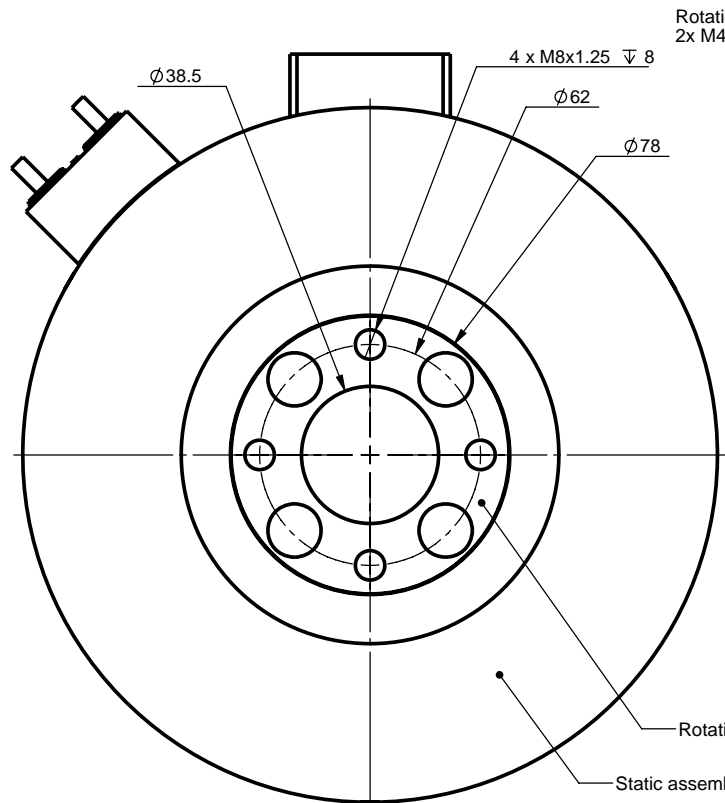
Easily mounted on any road vehicle by means of flanges ; no disassembly of the steering column is required.

Optional steering stops adjustable between  $\pm 15^\circ$  to  $\pm 165^\circ$  are available. These stops fold automatically for safety : there is no need for the driver to hit a panic button.



*Mounting principle of transducer on steering column - no disassembly of column is required. Adapters are not supplied*

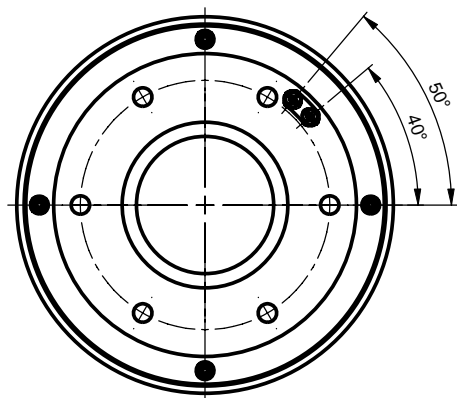




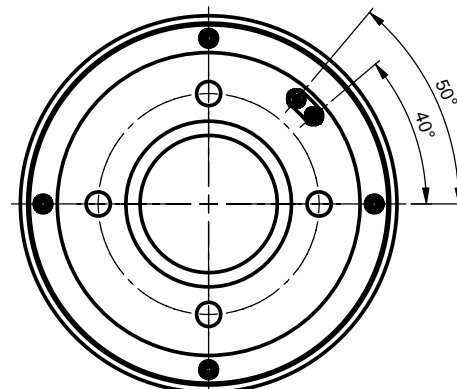
Version M5

FCA7300-xxx-xx/xxx-xxx/xxxx

- High Angle:  $\pm 1080^\circ$  (standard) /  $\pm 1800^\circ$  max
- Low Angle:  $\pm 30^\circ$  mini ( $\pm 50^\circ$  mini for 1800°)
- High torque - M5: 10Nm to 150Nm  
M6: 10Nm to 200Nm  
M8: 10Nm to 250Nm
- Low torque: 10% mini of High torque
- 570: 6x M5 holes at  $60^\circ$  on  $\phi 70$ , depth 8
- 577: 6x M5 holes at  $60^\circ$  on  $\phi 77$ , depth 8
- 670: 6x M6 holes at  $60^\circ$  on  $\phi 70$ , depth 8
- 673: 6x M6 holes at  $60^\circ$  on  $\phi 73$ , depth 8
- 862: 4x M8 holes at  $90^\circ$  on  $\phi 62$ , depth 8



M6 Version



M8 Version

Dynamic torque meter +  
Angle and speed measuring



40297-1459-03 Rev. A

FCA7300

Tol  $\pm 0.1$  1.6

Sauf spécifications particulières, toutes les cotes sont en millimètre. Unless otherwise specified, all dimensions are in millimeter.

EM/Range : \_\_\_Nm/\_\_\_Nm -  $\pm$  \_\_\_°/± \_\_\_° - 1080°/s

Matière/Material : Aluminium / Aluminum

Masse/Weight : 3326g

Traitement/Treatment :

Echelle/Scale : 2:3 **A3**

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EGD02-2

**CAPTEUR TYPE**  
*MODEL SENSOR*

**FCA7300**

Ref. FCA7300-xxx\_Rev A

**UTILISATION**  
*DESCRIPTION*

Couplemètre dynamique + Mesure d'angle et vitesse  
*Dynamic torquemeter + Angle and speed measuring*

<b>ETENDUE DE MESURE</b> <i>RANGE</i>	___Nm/___Nm - ±___°/±___° - 1080°/s
<b>SURCHARGE ADMISSIBLE</b> <i>OVERANGE</i>	300Nm x l'étendue de mesure <i>300Nm x full scale</i>
<b>TENSION D'ALIMENTATION</b> <i>EXCITATION</i>	10 / 28 Vcc 10 / 28 Vdc
<b>SIGNAL A L'ETENDUE DE MESURE</b> <i>SIGNAL OUTPUT AT FULL SCALE</i>	±10V / 10V (Pour couples et angles / pour vitesse) <i>±10V / 10V (For torques and angles / for velocity)</i>
<b>DESEQUILIBRE</b> <i>OFFSET</i>	0V ±0.5V 0V ±0.5V
<b>LINEARITE + HYSTERESIS</b> <i>LINEARITY + HYSTERESIS</i>	< ±0.15% de l'EM - < ±0.3.% de l'EM à partir de 150Nm <i>&lt; ±0.15% F.S - &lt; ±0.3% F.S after 150Nm</i>
<b>ISOLEMENT à 50Vcc</b> <i>INSULATION at 50 Vdc</i>	> 100 MΩ > 100 MΩ
<b>INDICE DE PROTECTION</b> <i>PROTECTION</i>	IP50
<b>PLAGE D'UTILISATION EN TEMPERATURE (OTR)</b> <i>OPERATING TEMPERATURE RANGE (OTR)</i>	-20°C à +80°C <i>-20°C to +80°C</i>
<b>PLAGE DE COMPENSATION EN TEMPERATURE (CTR)</b> <i>COMPENSATED TEMPERATURE RANGE (CTR)</i>	0°C à +60°C <i>0°C to +60°C</i>
<b>DERIVE DE ZERO DANS LA PLAGE COMPENSEE</b> <i>ZERO SHIFT WITHIN CTR</i>	< 0.5 % de l'étendue de mesure / 50°C <i>&lt; 0.5 % full scale / 50°C</i>
<b>DERIVE DE SENSIBILITE DANS LA PLAGE COMPENSEE</b> <i>SENSITIVITY SHIFT WITHIN CTR</i>	< 1 % de la valeur lue / 50°C <i>&lt; 1 % of reading / 50°C</i>
<b>SORTIE ELECTRIQUE</b> <i>ELECTRICAL OUTPUT</i>	Embases LEMO 4b et 6b <i>4p &amp; 6p LEMO receptacles</i>
<b>FICHE MOBILE</b> <i>MATING CONNECTOR</i>	Oui Yes
<b>TYPE ET LONGUEUR DE CABLE</b> <i>CABLE OUTPUT</i>	

**OBSERVATIONS :**  
*NOTES :*

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40297-1459-03 Rev A

01 - Diffusable 2

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