

# FCA 7300 Measurement Steering Wheel



- On-Board Electronics
- Five Simultaneous Analog Outputs
  - 2 Torques
  - 2 Angles
  - 1 Angular Velocity
- Built-In Shunt Calibration Function
- Universal – Fits All Road Vehicles
- Rapidly Installed via Mounting Adapters
- 10X F.S. Torque Overload Protection
- Steerability Maintained at Rupture
- Unique Remote Data Acquisition

## DESCRIPTION

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.

## FEATURES

- 5 Analog Outputs
- Torque, Angle, Velocity Outputs
- 10 to 250 Nm Range

## APPLICATIONS

- Automotive Design & Test
- Laboratory and Research
- Component Testing

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## PERFORMANCE SPECIFICATIONS

|                                     |  |                                      |
|-------------------------------------|--|--------------------------------------|
| <b>CAPTEUR TYPE</b><br>MODEL SENSOR | <b>FCA7300</b>   | Ref. FCA7300-xxx_Rev B               |
| <b>UTILISATION</b><br>DESCRIPTION   | Couplemètre dynamique + Mesure d'angle et vitesse<br>Dynamic torquemeter + Angle and speed measuring | 570*<br>577*<br>670*<br>673*<br>862* |

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

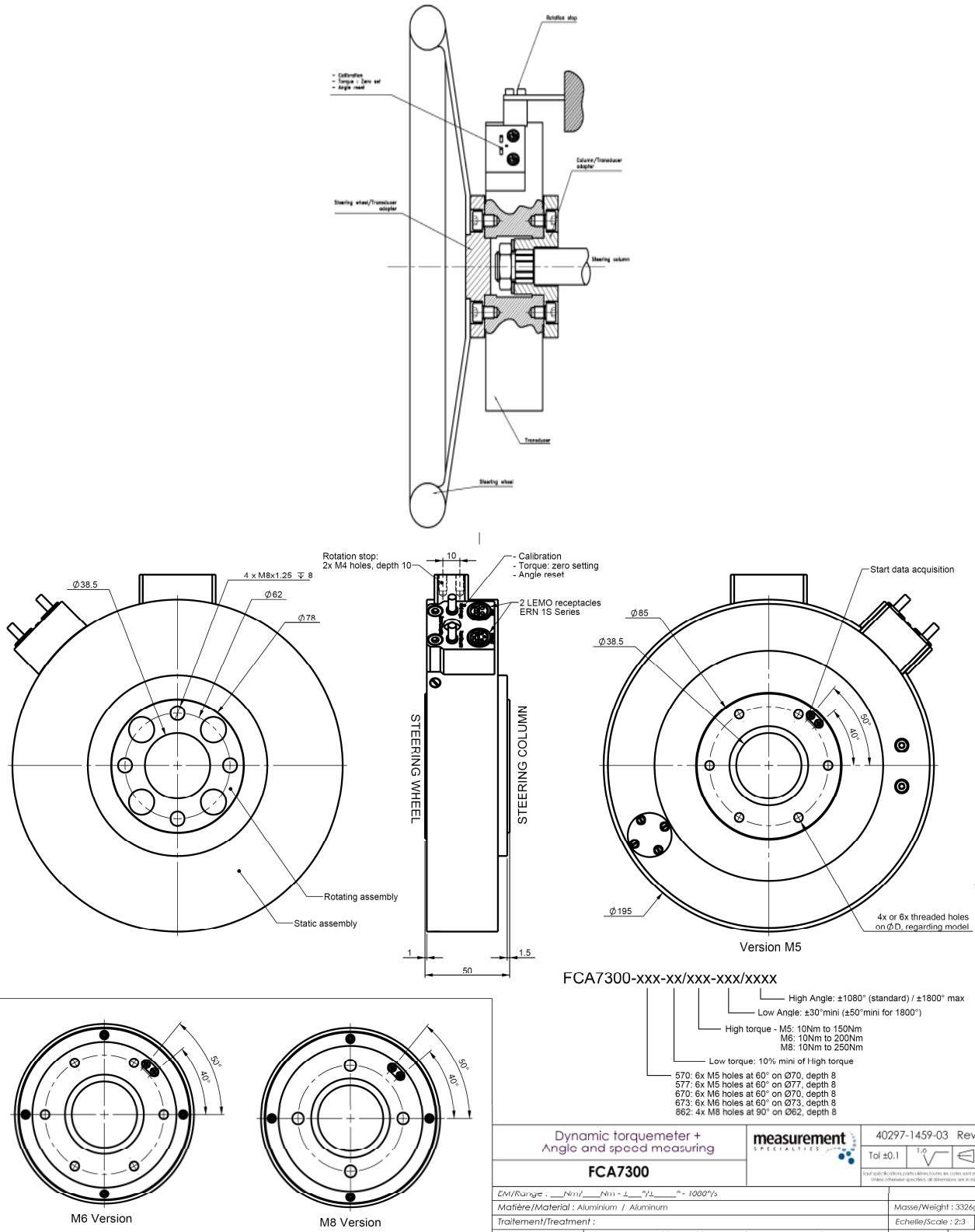
**OBSERVATIONS :** \* Voir plan joint pour les étendues de mesures du FCA7300  
**NOTES :** \* See attached drawing for configure FCA7300 ranges

|                       |     |     |     |     |     |     |     |     |     |     |     |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| EM / Range (Nm)       | 10  | 20  | 30  | 40  | 50  | 60  | 80  | 100 | 150 | 200 | 250 |
| Surch./Overrange (Nm) | 100 | 200 | 300 | 300 | 300 | 300 | 120 | 150 | 225 | 300 | 300 |

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## DIMENSIONS



# FCA 7300 Measurement Steering Wheel

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