



FEATURES

- ♦ Universal – fits all road vehicles
- ♦ Rapidly Installed via mounting adapters
- ♦ 10x FS Torque overload protection
- ♦ Highest accuracy available on the market
- ♦ 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
- ♦ Optional adjustable steering stops available (self-folding for safety)

APPLICATIONS

- ♦ Automotive design & test
- ♦ Trucks maintenance testing

FCA7300

Torque/Speed/Velocity for Steering Wheel

SPECIFICATIONS

- ♦ **On-Board Electronics**
- ♦ **Five Simultaneous Analog Outputs**
 - 2 Torques**
 - 2 Angles**
 - 1 Angular Velocity**
- ♦ **Built-In Shunt Calibration Function**
- ♦ **Steer ability maintained at Rupture**
- ♦ **Unique Remote Data Acquisition trigger feature**

The **FCA7300** steering wheels sensors are designed for automotive testing and provide an “all-in” measurement.

This generation of transducers incorporates numerous technological functions, such as:

- ♦ Angle reset, torque calibration
- ♦ A Start trigger signal to the remote data acquisition system.
- ♦ Optical coder processing to prevent the need for external TTL electronics
- ♦ Five simultaneous analogue output signals
- ♦ Suppression of the bearing friction influence on torque, allowing high accuracy for low torque measurements
- ♦ Low profile design retains the same driving conditions as with standard steering wheels.
- ♦ The sensor assembly can be operated:
 - The sensor can be screwed on shaft, see drawing page 3.
 - Easily mounted on any road vehicle by optional flanges, please consult factory.
- ♦ Optional steering stops adjustable between $\pm 15^\circ$ to $\pm 165^\circ$ are available. These stops fold automatically for safety.

GENERAL FEATURES

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

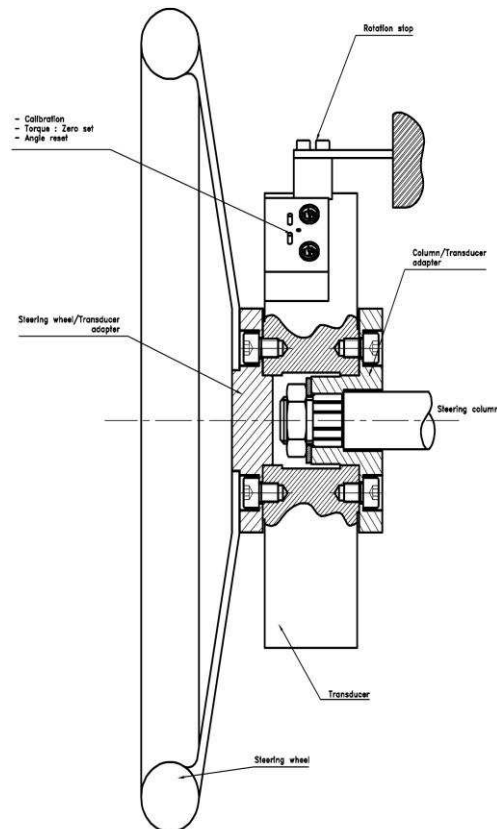
Low profile design retains the same driving conditions as with standard steering wheels.

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



PERFORMANCE SPECIFICATIONS (typical values at 23±3°C)

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

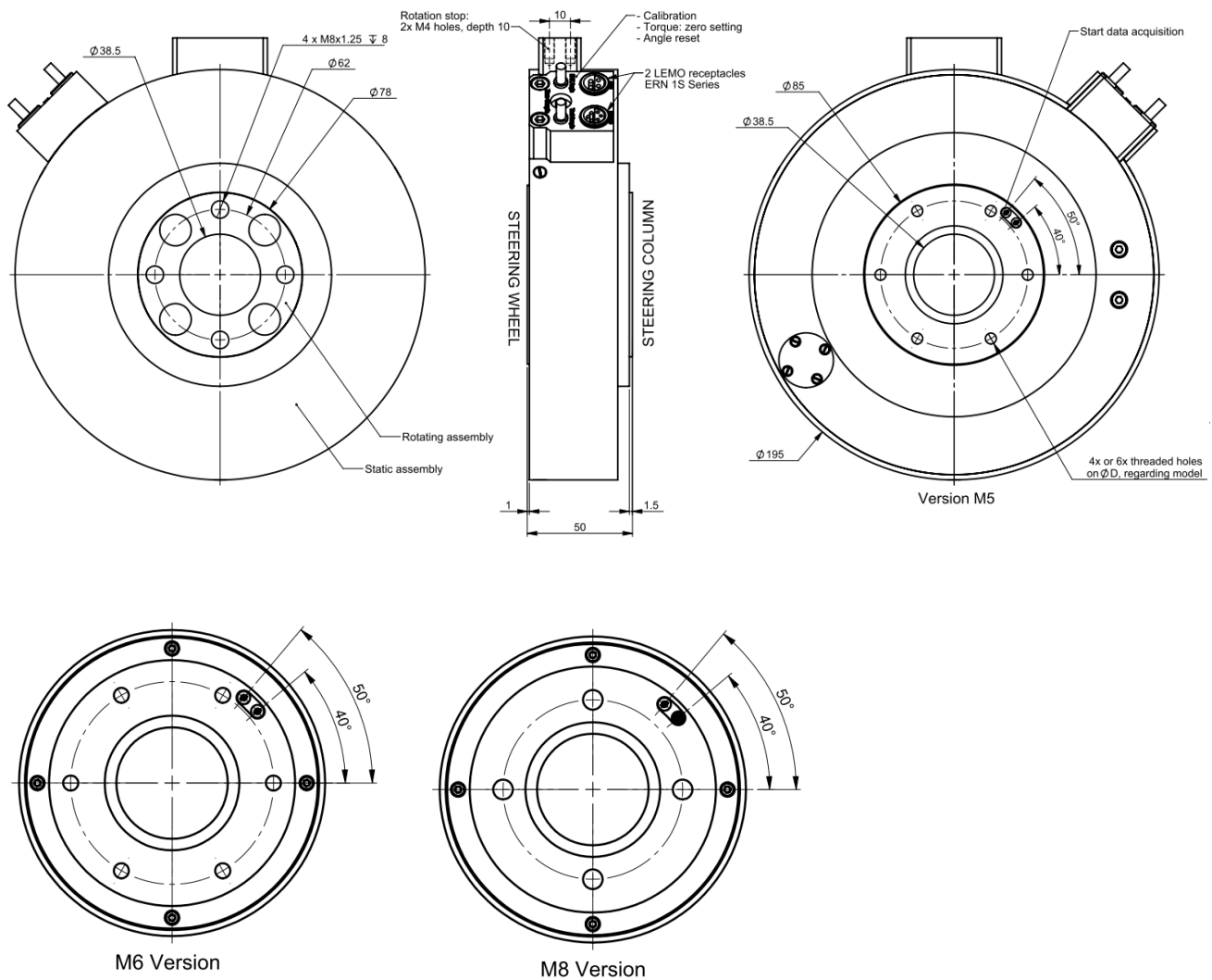
| | | |
|--|--|--|
| ETENDUE DE MESURE RANGE | ___ Nm/ ___ Nm - ± ___ °/± ___ ° - 1080°/s | |
| SURCHARGE ADMISSIBLE OVERANGE | Voir Tableau See Table | |
| TENSION D'ALIMENTATION EXCITATION | 10 / 28 Vcc 10 / 28 Vdc | |
| SIGNAL A L'ETENDUE DE MESURE SIGNAL OUTPUT AT FULL SCALE | ±10V / 10V (Pour couples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

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

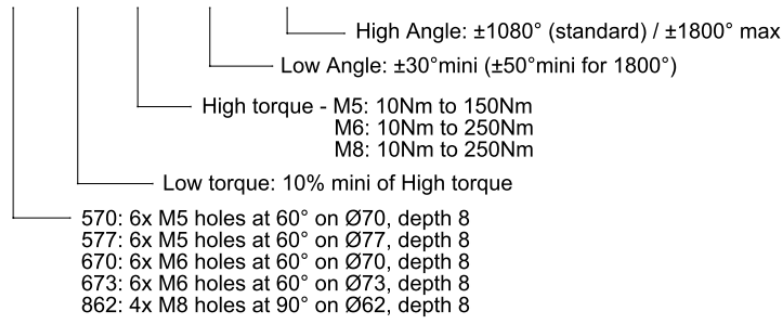
| | | | | | | | | | | | |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| EM / Range (Nm) | 10 | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | 250 |
| Surch./Overrange (Nm) | 100 | 200 | 300 | 300 | 300 | 300 | 120 | 150 | 225 | 300 | 300 |

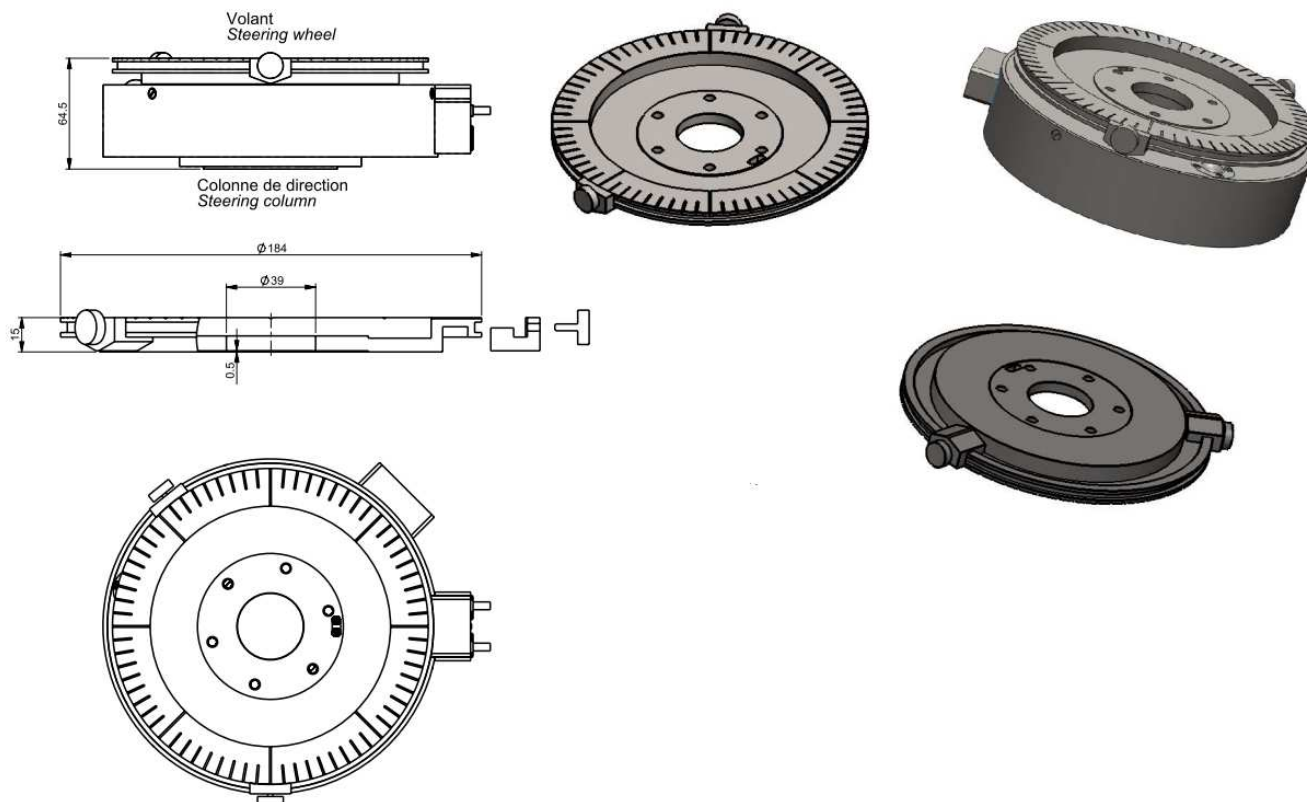
La société se réserve le droit de modifier sans préavis les cotes et spécifications annoncées

DIMENSIONS



FCA7300-xxx-xx/xxx-xxx/xxxx



ANGULAR STEERING STOPS

| Designation | Part Number |
|----------------------------|----------------|
| FCA7300-570-STEERING STOPS | EFCA7-X-X00001 |
| FCA7300-577-STEERING STOPS | EFCA7-X-X00002 |
| FCA7300-670-STEERING STOPS | EFCA7-X-X00003 |
| FCA7300-673-STEERING STOPS | EFCA7-X-X00004 |
| FCA7300-862-STEERING STOPS | EFCA7-X-X00005 |

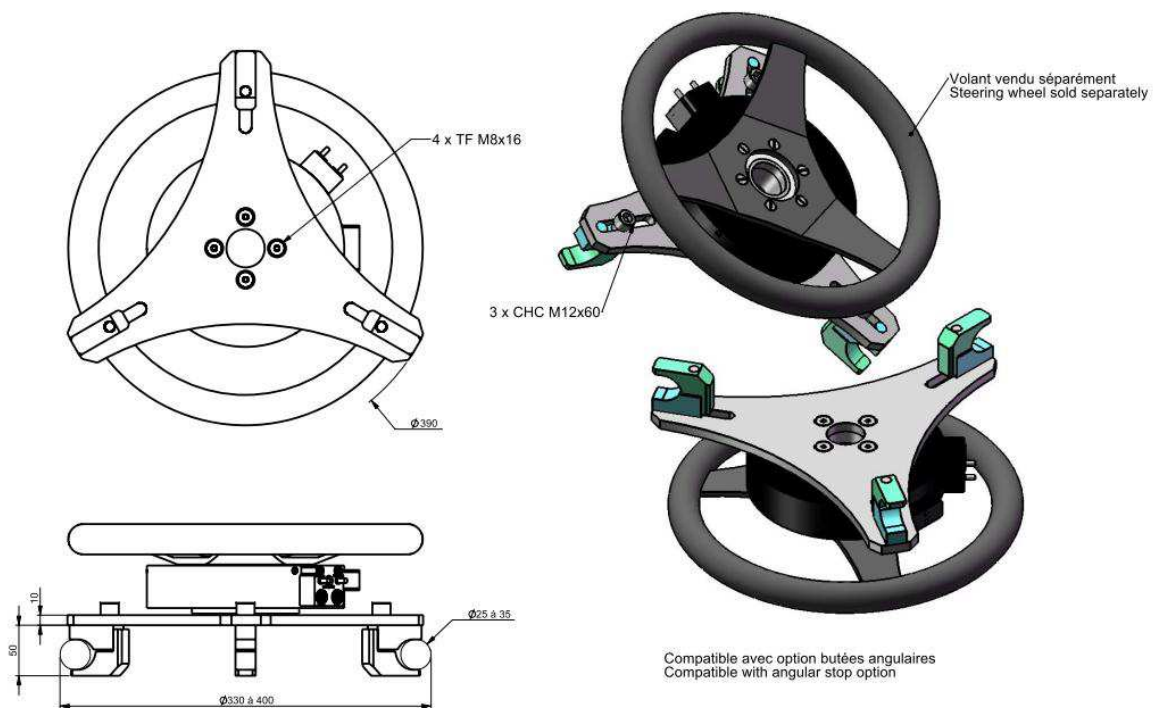
Plage de réglage: $\pm 15^\circ$ à $\pm 165^\circ$

Pour des raisons de sécurité, les butées mécaniques se déconnectent lorsque le couple prédéfini est atteint

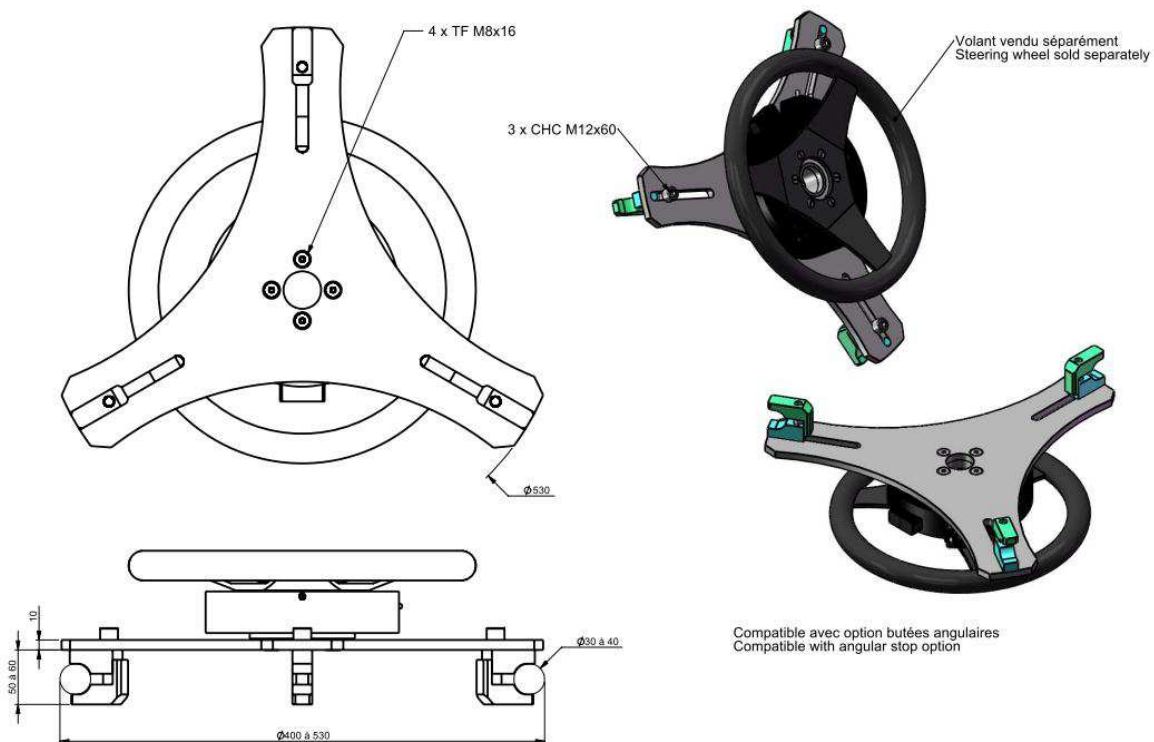
Adjustable steering stops: $\pm 15^\circ$ to $\pm 165^\circ$

For safety reasons, steering stops automatically set off when defined torque is reached

STEERING WHEEL ADAPTER (Ø330 to 400)

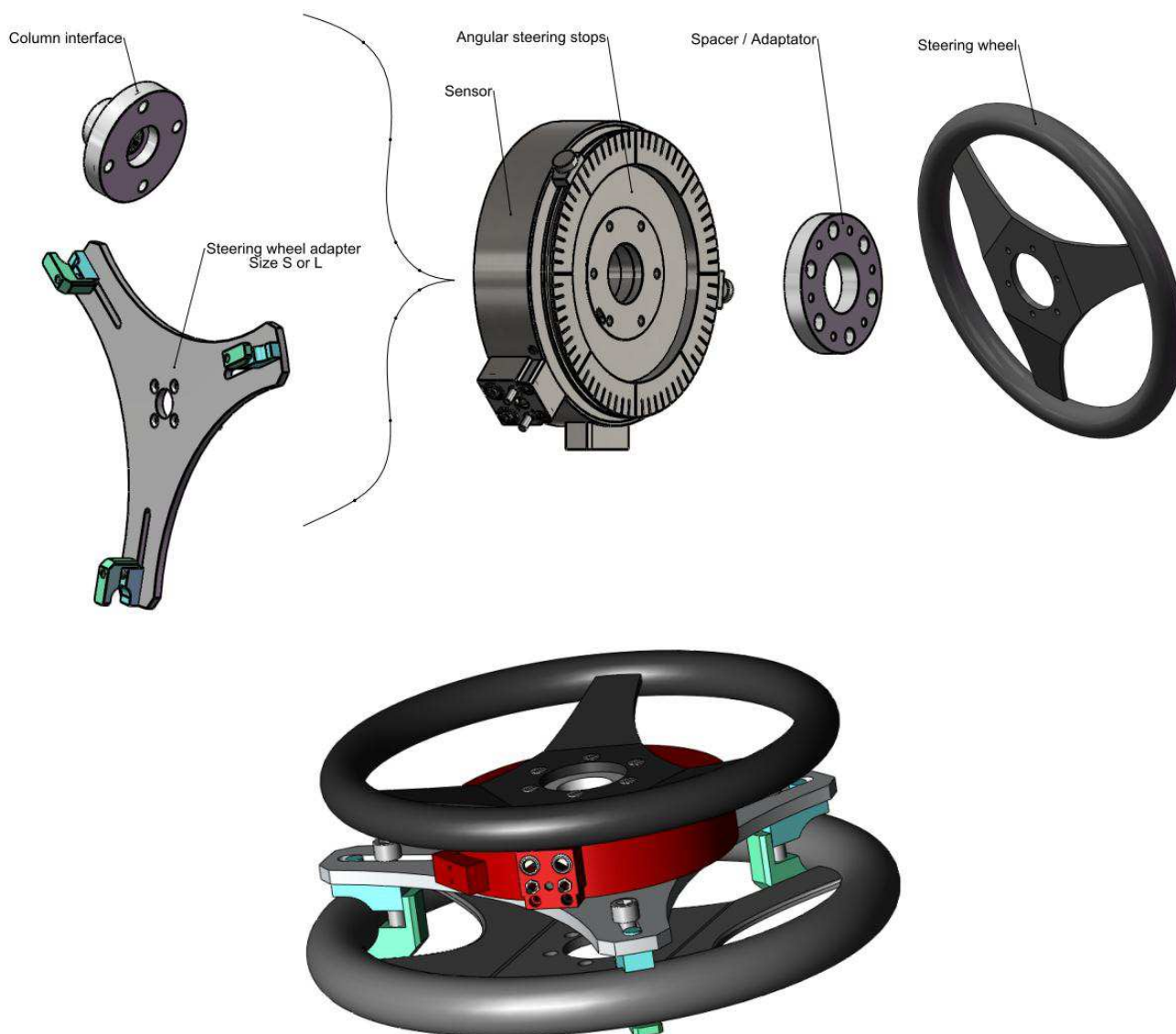


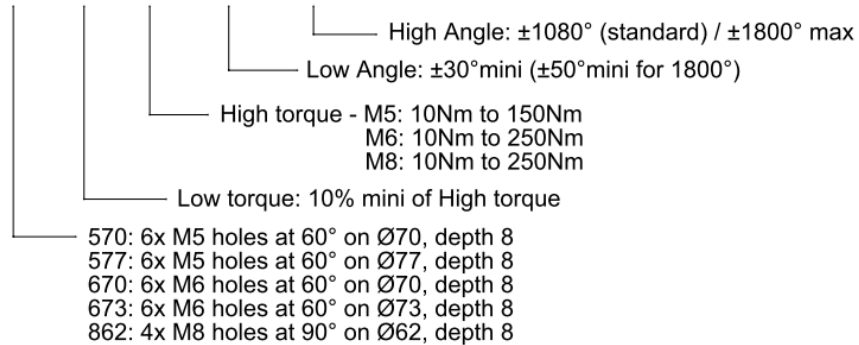
STEERING WHEEL ADAPTER (Ø400 to 530)



FCA7300 ASSEMBLY & OPTIONS

| SENSOR | | AVAILABLE OPTIONS | | | | |
|------------------------|-----------------------------------|--|---|--|---|--|
| Max FSO | Steering wheel interface fixation | Column interface | Steering wheel S or L adapter | Angular steering stops | Spacer sensor / steering wheel (only with angular steering stops) | Steering wheel supplied |
| 150 Nm | 6xM5 on Ø70 | Yes To be defined following customer interface column | Yes S: Ø 330 to 400mm PN: EFCA-7-X-X00006 L: Ø 400 to 530mm PN: EFCA-7-X-X00007 | Yes PN: EFCA-7-X-X00001 | 570 / 570 PN: ZFN7300064 | N0 |
| 150 Nm | 6xM5 on Ø77 | | | Yes PN: EFCA-7-X-X00002 | 577 / 577 PN: ZFN7300065 | N0 |
| 250 Nm | 6xM6 on Ø70 | | | Yes PN: EFCA-7-X-X00003 | 670 / 670 PN: ZFN7300057 | Yes (Ø 350 and 380mm) |
| 250 Nm | 6xM6 on Ø73 | | | Yes PN: EFCA-7-X-X00004 | 673 / 673 PN: ZFN7300066 | N0 |
| 250 Nm | 4xM8 on Ø62 | | | Yes PN: EFCA-7-X-X00005 | 862 / 862 PN: ZFN7300067 | N0 |
| Other specific request | Other specific request | | | | | |



ORDERING INFORMATION**FCA7300-xxx-xx/xxx-xxx/xxxx**

神州融安科技（北京）有限公司

电话：010-62127688、82057633

地址：北京市海淀区花园路2号牡丹科技楼B座三层B308室

网址：www.ronganchina.cn

NORTH AMERICA

Measurement Specialties, Inc.,
 a TE Connectivity Company
 Phone: +1 800 522 6752
 Email: customercare.fmt@te.com

EUROPE

Measurement Specialties (Europe), Ltd.
 a TE Connectivity Company
 Phone: +31 73 624 6999
 Email: customercare.lcsb@te.com

ASIA

Measurement Specialties (China), Ltd.,
 a TE Connectivity Company
 Phone +86 400 820 6015
 Email: customercare.shzn@te.com

TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.