



扭矩感測器

TORQUE SENSORS



磁致伸縮技術 · 無接觸式量測 · 100% 德國製造

巨克富科技股份有限公司
www.chiefsi.com.tw

SERIES 2000



量測範圍：2.5 Nm 至 500 Nm，雙向。
轉速：≤ 5000 rpm
精度：≤ ±1 %
工作溫度：-30 °C 至 +85 °C
防護等級：IP50
輸出訊號：±10V / ±5V / 0-10V / 0-5V
截止頻率：1000 Hz

Torque ranges

Model line Series 2200 Round shaft	Nominal torque bidirectional (+/-) [Nm]	Limit torque unidirectional [Nm]	Limit torque bidirectional (+/-) [Nm]	RPM [rpm]
Ø 9 mm	2.5	3.25	3.25	5000
	5	6.5	6.5	
	7.5	9.75	9.75	
	17.5	19.5	19.5	
Ø 14 mm	75	97.5	97.5	
Ø 19 mm	175	227.5	227.5	
	250	325	325	
Ø 25 mm	500	650	650	

Note: In case of overload, the sensor leads to a measurement offset. In this case the sensor must be recalibrated at NCTE AG. The sensor may only be operated within the specified nominal torque range.

Load characteristics

Model line Series 2200 Measuring range	Axial force [N] ¹	Limit transverse force [N]	Limit bending moment [Nm]
2.5 and 5	1000	20	2.5
7.5	1000	30	3.7
17.5	1000	100	12.5
75	2600	300	41.7
175 and 250	4000	500	89.5
500	7000	800	176

Any irregular stress (bending moment, transverse or axial force, exceeding the nominal torque) up to the specified static load limit is only permissible as long as none of the other stresses can occur. Otherwise the limit values must be reduced. If 30 % of the limit bending moment and 30 % of the limit transverse force are present in each case, only 40 % of the axial force is permissible, whereby the nominal torque must not be exceeded.

¹ Specified values only apply to direct axial force on the shaft. If the axial force acts on the circlip, only 50 % of the force is permissible.

*S2000 有方軸版本，因其 bidirectional limit 比額定低，易有選錯疑慮，故不放在型錄上。如有需求請洽業務人員。

SERIES 2300



量測範圍：0.5 Nm 至 100 Nm，雙向。

轉速：≤ 10000 rpm

精度：≤ ±0.5 %

工作溫度：-30 °C 至 +85 °C

防護等級：IP50

輸出訊號選項：0-10V / 4-20 mA / CAN-Bus / USB

截止頻率：1000 Hz

Torque ranges

Model line Series 2300	Nominal torque bidirectional (+/-) [Nm]	Limit torque unidirectional [Nm]	Limit torque bidirectional (+/-) [Nm]	RPM [rpm]
Ø 8 mm	0.5	0.5	0.5	10000
	1	1.3	1.3	
Ø 9 mm	2.5	3.25	3.25	
	5	6.5	6.5	
	10	13	13	
	20	26	26	
Ø 15 mm	50	65	65	
	100	130	130	

Note: In case of overload, the sensor leads to an offset in measurement. In such case, the sensor needs to be recalibrated at NCTE AG. The sensor should be operated only within the specified nominal torque range.

Load characteristics

Series 2300 Measuring range	Axial force [N] ¹	Limit transverse force [N]	Limit bending moment [Nm]
0.5	250	5	0.5
1	500	8	1
2.5 and 5	1000	20	2.5
10 and 20	1000	30	12.5
50 and 100	1000	100	41.7

Any irregular stress (bending moment, transverse or axial force, exceeding the nominal torque) up to the specified static load limit is only permissible as long as none of the other stresses can occur. Otherwise the limit values must be reduced. If 30 % of the limit bending moment and 30 % of the limit transverse force are present in each case, only 40 % of the axial force is permissible, whereby the nominal torque must not be exceeded.

¹ Specified values only apply to direct axial force on the shaft. If the axial force acts on the circlip, only 50 % of the force is permissible.

SERIES 3000



量測範圍：50 Nm 至 2000 Nm，雙向。

轉速：≤ 10000 rpm

精度：≤ ±0.2 %

工作溫度：-40 °C 至 +85 °C

防護等級：IP50

輸出訊號選項：0-10V / 4-20 mA

截止頻率：2500 Hz

Torque ranges

Model line Series 3000 Round shaft	Nominal torque bidirectional (+/-) [Nm]	Limit torque unidirectional [Nm]	Limit torque bidirectional (+/-) [Nm]	RPM [rpm]
Ø 15 mm	50	65	65	10000
	100	130	130	
Ø 25 mm	250	325	325	8000
	500	650	650	
Ø 40 mm	1000	1300	1300	5000
	2000	2600	2600	

Model line Series 3000 Square shaft	Nominal torque bidirectional (+/-) [Nm]	Limit torque unidirectional [Nm]	Limit torque bidirectional (+/-) [Nm]	RPM [rpm]
3/8 inch	50	50	35	10000
3/4 inch	250	250	250	8000
1 inch	1000	1000	670	5000

Note: In case of overload, the sensor leads to a measurement offset. In such case, the sensor needs to be recalibrated at NCTE AG. The sensor should be operated only within the specified nominal torque range.

Load characteristics

Model line Series 3000 Measuring range	Axial force [N] ¹	Limit transverse force [N]	Limit bending moment [Nm]
50 and 100	2300	300	41.7
250 and 500	7000	800	176
1000 and 2000	24000	2000	700

Any irregular stress (bending moment, transverse or axial force, exceeding the nominal torque) up to the specified static load limit is only permissible as long as none of the other stresses can occur. Otherwise the limit values must be reduced. If 30 % of the limit bending moment and 30 % of the limit transverse force are present in each case, only 40 % of the axial force is permissible, whereby the nominal torque must not be exceeded.

¹ Specified values only apply to direct axial force on the shaft. If the axial force acts on the circlip, only 50 % of the force is permissible.

SERIES 4000



量測範圍：50 Nm 至 1000 Nm，雙向。

轉速：≤ 10000 rpm

精度：≤ ±0.1 %

工作溫度：-40 °C 至 +85 °C

防護等級：IP50

輸出訊號選項：0-10V / 4-20 mA

截止頻率：2500 Hz

Torque ranges

Model line Series 4000 Round shaft	Nominal torque bidirectional (+/-) [Nm]	Limit torque unidirectional [Nm]	Limit torque bidirectional (+/-) [Nm]	RPM [rpm]
Ø 15 mm	50	65	65	10000
	100	130	130	
Ø 25 mm	250	325	325	8000
Ø 40 mm	1000	1300	1300	5000

Model line Series 4000 Square shaft	Nominal torque bidirectional (+/-) [Nm]	Limit torque unidirectional [Nm]	Limit torque bidirectional (+/-) [Nm]	RPM [rpm]
¾ inch	50	50	35	10000
¾ inch	250	250	250	8000
1 inch	1000	1000	670	5000

Note: In case of overload, the sensor leads to a measurement offset. In such case, the sensor needs to be recalibrated at NCTE AG. The sensor should be operated only within the specified nominal torque range.

Load characteristics

Model line Series 4000 Measuring range	Axial force [N] ¹	Limit transverse force [N]	Limit bending moment [Nm]
50 and 100	2300	300	41.7
250	7000	800	176
1000	24000	2000	700

Any irregular stress (bending moment, transverse or axial force, exceeding the nominal torque) up to the specified static load limit is only permissible as long as none of the other stresses can occur. Otherwise the limit values must be reduced. If 30 % of the limit bending moment and 30 % of the limit transverse force are present in each case, only 40 % of the axial force is permissible, whereby the nominal torque must not be exceeded.

SERIES 5000



量測範圍：10000 Nm，雙向。

轉速：≤ 2500 rpm

精度：≤ ±0.5 %

工作溫度：-30 °C 至 +85 °C

防護等級：IP50, IP65

輸出訊號：0-10V / 4-20 mA / CAN-Bus / USB

截止頻率：2500 Hz

Torque ranges

Model line Series 5000	Nominal torque bidirectional (+/-) [Nm]	RPM [U/min]
Standard	10000	2500

Note: In case of overload, the sensor leads to a measurement offset. In such case, the sensor needs to be recalibrated at NCTE AG. The sensor should be operated only within the specified nominal torque range.

Load characteristics

Model line Series 5000	Axial force [N] ¹	Limit transverse force [N]	Limit bending moment [Nm]
Standard	20000	300	41.7

Any irregular stress (bending moment, transverse or axial force, exceeding the nominal torque) up to the specified static load limit is only permissible as long as none of the other stresses can occur. Otherwise the limit values must be reduced. If 30 % of the limit bending moment and 30 % of the limit transverse force are present in each case, only 40 % of the axial force is permissible, whereby the nominal torque must not be exceeded.

¹ Specified values only apply to direct axial force on the shaft. If the axial force acts on the circlip, only 50 % of the force is permissible.

SERIES 7000



量測範圍：3000 Nm 至 5000Nm，雙向。

轉速：≤ 3600 rpm

精度：≤ ±0.5 %

工作溫度：-40 °C 至 +85 °C

防護等級：IP50, IP65

輸出訊號：0-10V / 4-20 mA / CAN-Bus / USB

截止頻率：2500 Hz

Torque ranges

Model line Series 7000	Nominal torque bidirectional (+/-) [Nm]	RPM [U/min]
NCTE Flange	3000	3600
NCTE Flange	5000	

Note: In case of overload, the sensor leads to a measurement offset. In such case, the sensor needs to be recalibrated at NCTE AG. The sensor should be operated only within the specified nominal torque range.

Load characteristics

Model line Series 7000	Axial force [N] ¹	Limit transverse force [N]	Limit bending moment [Nm]
NCTE	16000	to be avoided	to be avoided

Any irregular stress (bending moment, transverse or axial force, exceeding the nominal torque) up to the specified static load limit is only permissible as long as none of the other stresses can occur. Otherwise the limit values must be reduced. If 30 % of the limit bending moment and 30 % of the limit transverse force are present in each case, only 40 % of the axial force is permissible, whereby the nominal torque must not be exceeded.

¹ Specified values only apply to direct axial force on the shaft. If the axial force acts on the circlip, only 50 % of the force is permissible.

NCTE Torque Sensors

Nominal torque

			Nominal torque[Nm]																						
Model	Shaft Type	Accuracy (%)	0.5	1	2.5	5	7.5	10	15	17.5	20	50	60	75	100	140	175	250	400	500	1k	2k	3k	5k	10k
S2100	□	≤±1			✓	✓	✓		✓				✓			✓			✓						
S2200	○	≤±1			✓	✓	✓			✓				✓			✓	✓		✓					
S2300	○	≤±0.5	✓	✓	✓	✓		✓			✓	✓			✓			✓		✓					
S3000	□	≤±0.2										✓						✓			✓				
S3000	○	≤±0.2										✓			✓			✓		✓	✓	✓			
S4000	□	≤±0.1										✓						✓			✓				
S4000	○	≤±0.1										✓			✓			✓			✓				
S5000	○	≤±0.5																							✓
S7000	○	≤±0.5																					✓	✓	

Output | Protection class | Optional | Speed

Model	Shaft Type	Accuracy (%)	Output							Protection class		Optional		Speed [rpm]
			0-5V	0-10V	±5V	±10V	4-20mA	CAN-Bus	USB	IP50	IP65	Angle Sensor	Speed Sensor	
S2100	□	≤±1	✓	✓	✓	✓				✓				≤1000
S2200	○	≤±1	✓	✓	✓	✓				✓				≤5000
S2300	○	≤±0.5		✓			✓	✓	✓	✓		✓		≤10000
S3000	□	≤±0.2		✓			✓			✓		✓		≤10000
S3000	○	≤±0.2		✓			✓			✓		✓		≤10000
S4000	□	≤±0.1		✓			✓			✓		✓		≤10000
S4000	○	≤±0.1		✓			✓			✓		✓		≤10000
S5000	○	≤±0.5		✓			✓	✓	✓	✓	✓			≤2500
S7000	○	≤±0.5		✓			✓	✓	✓	✓	✓	✓	✓	≤3600

Accessories

- NCTE USB Software
- Couplings for S2000, S3000, S4000
- NCTE readout box
- Measuring software for readout box
- S2000 sensor bracket
- 5M connection cable
- USB connecting cable

Contact us

巨克富科技股份有限公司
www.chiefsi.com.tw
service@chiefsi.com.tw

TEL 03-5936268
FAX 03-5936228
新竹縣芎林鄉五龍村五和街 196 號