alpha IQ and torqXis –
integrated sensor technology or modular sensor systems

alpha IQ

torqXis

Understanding processes
Intelligent sensor systems

Whether integrated in the gearhead or as a modular solution, sensors allow you to measure, diagnose and assess process parameters directly, i.e. all mechanical loads processed by the gearhead can be measured at the output drive.

Further information is available on the Internet at:
www.wittenstein-sensors.com

Use of sensors

Cost savings – drive design

Thanks to this innovative technology, it has now become possible to take real values into account during drive design. This not only saves costs, but also enables a compact design.

Controlling the forces in the drive train

Unforeseen failures in the drive train result in enormous costs. The acting load spectra are measured, analyzed and diagnosed using innovative sensors.

Preventive tool wear warning system

With the aid of sensor technology, conclusions can be drawn regarding the condition of the driven tools based on changes in the applied torque or the lateral force in the drive train.

Enhancing machine availability

Intelligent systems continuously monitor the drive status, allow maintenance measures to be planned more effectively and shorten the response time for maintenance deployments to a minimum.

Efficient drive control

Load-dependent process control is made possible through online calculation of the torque and lateral force. Innovative sensors used as an active control element not only improve process quality, but also help in understanding and improving the process.

Quality verification in the drive train

The top priority is of course to prevent faults. However, when a fault does arise, it is just as important to analyze it as accurately as possible! In many cases, this can be achieved with the aid of sensor technology.

Versions and Applications

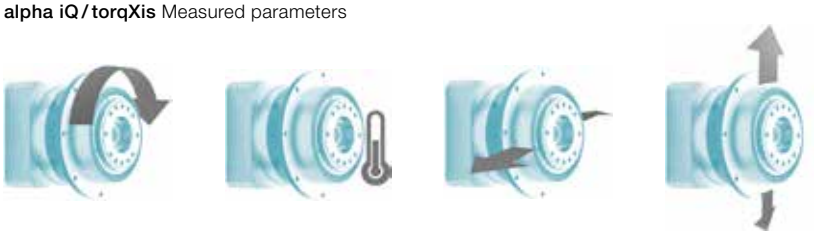
alpha IQ

Achieving compatibility.
Utilizing intelligence.
Increasing efficiency.
WITTENSTEIN alpha gearhead with integrated sensors – helping you to better understand your processes.

torqXis sensors

Modular sensor solution for measuring mechanical parameters in the drive train.

alpha iQ / torqXis Measured parameters



Torque | Temperature | X direction | Y direction

Product features

	alpha IQ				torqXis				
Solution	Integrated solution – intelligent sensors and low backlash gearhead in one unit				Modular solution – the sensor can simply installed like a flange between the output and the machine bed.				
	1-3 measured parameters Simultaneous measurement of torque and/or lateral forces				**Standard version (S)** Simultaneous measurement of torque and lateral forces in X and Y directions				
					Light version (L) Measurement of torque or lateral force in one direction				
Size	TP+ 025 IQ	TP+ 050 IQ	TP+ 110 IQ	TP+ 300 IQ	SFR 004 for TP+ 004	SFR 010 for TP+ 010	SFR 025 for TP+ 025	SFR 050 for TP+ 050	SFR 110 for TP+ 110
Torque measurement range	250 Nm	500 Nm	1,500 Nm	3,000 Nm	50 Nm	100 Nm	250 Nm	500 Nm	1,500 Nm
	800 Nm	1,500 Nm	3,000 Nm	8,750 Nm		300 Nm	800 Nm	1,500 Nm	3,000 Nm
Lateral force measurement range (X/Y)	2,500 N	5,000 N	10,000 N	15,000 N	850 N	1,500 N	2,500 N	5,000 N	10,000 N
	10,000 N	15,000 N	30,000 N	44,000 N		4,500 N	10,000 N	15,000 N	30,000 N
Type of measurement	Reaction forces / reaction torques – sensors not corotating								
Absolute accuracy	< 2%								
Repeat accuracy	< 0.5%								
Evaluation	torqXis software for measurement, storage and evaluation of data / configuration of sensor system								
Analog interfaces	Voltage interface, current interface								
Digital interfaces	RS 232, USB, Ethernet/IP								