

Inclination sensors (analog)													page 1/2				rev4.0 20241112			
Family:	QG30			QG40			QG40N				QG40N Redundant		QG65N2 / QG76N2 analog				QG65D / QG76D analog Dynamic			
Product life cycle status	for new designs			for new designs			for new designs				for new designs		for new designs				for new designs			
Remarks													Two models: standard / high accuracy				Two models: standard / high accuracy			
Measuring range	±10°	±30°	±90°	±10°	±30°	±90°	±10°	±30°	±90°	360°	±90°	360°	±10°	±30°	±90°	360°	±10°	±30°	±90°	360°
Number of axis	1			2			2		1		1		2		1		2		1	
Zero adjustment function	no			no			yes				yes		yes				yes			
Functional safety	no			no			no				full redundant		no				no			
Supply Voltage	10- 30 Vdc / 5 Vdc			10- 30 Vdc / 5 Vdc			10- 30 Vdc				10- 30 Vdc		approx. 10- 32 Vdc				approx. 10- 32 Vdc			
Output format	4-20mA 0.5-4,5V Vcc=5V: 0-5V ratiometric			4-20mA 0.5-4,5V Vcc=5V: 0-5V ratiometric			4-20mA 0.5-4,5V				4-20mA		4-20mA 0-10V				4-20mA 0-10V			
Output bandwidth	0 - 10Hz			0 - 10Hz			0 - 10Hz				0 - 10 Hz		0 - 10Hz				0 - 50Hz			
Output function	sinus curve			sinus curve			lineair				lineair		lineair				lineair			
Resolution	0,03°			0,03°			0,1°				0,1°		0,01°				0,01°			
Accuracy (typ. @20°C)	0,3°	0,6°	0,9° (-45° .. +45°)	0,3°	0,6°	0,9° (-45° .. +45°)	0,5°				0,5°		up to 0,07° (high accuracy) up to 0,1° (standard accuracy)				up to 0,07° static, 0,5° dynamic (high accuracy) up to 0,1° static, 0,8° dynamic (standard accuracy)			
	offset error excluded, 1° typ.			offset error excluded, 1° typ.																
Temperature coefficient (typ.)	0,02°/K			0,02°/K			0,08°/K				0,08°/K		0,3° over full Temperature range (high accuracy) 0,02°/K (standard accuracy)				0,3° over full Temperature range (high accuracy) 0,02°/K (standard accuracy)			
Housing material	Plastic			Plastic			Plastic				Plastic		QG65: Reinforced plastic with steel fiber QG76: Stainless steel				QG65: Reinforced plastic with steel fiber QG76: Stainless steel			
Size	30x30x15mm			40x40x25mm			40x40x25mm				40x40x25		QG65: 60x50x27mm QG76: 70x60x33mm				QG65: 60x50x27mm QG76: 70x60x33mm			
Temperature range	-25 .. +80°C			-40 .. +80°C			-40 .. +80°C				-25 .. +80°C		-40 .. +80°C				-40 .. +80°C			
Protection class	IP67			IP67, IP69K			IP67, IP69K				IP67		QG65: IP67, IP69K QG76: IP67, IP69K (IP68 with gland/cable)				QG65: IP67, IP69K QG76: IP67, IP69K (IP68 with gland/cable)			
Certification	CE			CE, UL			CE, UL				CE		QG65: CE, Automotive EMC, E4ready, UL QG76: CE, Automotive EMC, E4ready, UL				QG65: CE, Automotive EMC, E4ready, UL QG76: CE, Automotive EMC, E4ready, UL			
Programmable	no			no			Yes, with optional configurator				Yes, with optional configurator		factory programmable				factory programmable			
Connection standard	PVC cable 2m			M12 5-pole male			M12 5-pole male				2m PUR cable		M12 male 5p				M12 male 5p			
Options:	Different output formats (i.e. 0-5V, 0-10V, 0,5-4,5V etc), bandwidths, subranges, cables, connectors M12 8-pole etc.																			

Inclination sensors (CAN)				page 2/2			rev4.0 20241112		
Family:	QG65N2/QG76N2 CANopen/J1939			QG65N/QG76N CANopen Safety SIL CL 2/PLd			QG65D/QG76D CANopen/J1939 Dynamic		
Product life cycle status	for new designs			for new designs			for new designs		
Measuring range	±30°	±90°	360°	±30°	±90°	360°	±30°	±90°	360°
Number of axis	2		1	2		1	2		1
Zero adjustment function	yes			yes			yes		
Functional safety	no			SIL CL 2 / PLd certified			no		
Supply Voltage	10 - 32 Vdc			8 - 32 Vdc			8 - 32 Vdc		
Output format	CANopen / SAE J1939			CANopen & CANopen Safety			CANopen / SAE J1939		
Output bandwidth	0 - 10Hz			0 - 10Hz			0 - 50Hz		
Output function	lineair			lineair			lineair		
Resolution	Programmable 0,01° (default) / 0,1° / 1°			0,05°			Programmable 0,01° (default) / 0,1° / 1°		
Accuracy (typ. @20°C)	0,07° (high accuracy) 0,15° (standard accuracy)			0,15°			0,07° static, 0,5° dynamic (high accuracy) 0,15° typ static, 0,8° dynamic (standard accuracy)		
Temperature coefficient (typ.)	0.003°/K (high accuracy) 0.015°/K (standard accuracy)			0,02°/K			0.003°/K (high accuracy) 0.015°/K (standard accuracy)		
Housing material	QG65: Reinforced plastic with steel fiber / QG76: Stainless steel								
Size	QG65: 60x50x27mm / QG76: 70x60x33mm								
Temperature range	-40 . . +80°C								
Protection class	QG65: IP67, IP69K / QG76: IP67, IP69K (IP68 with gland/cable)								
Certification	CE, UL, Automotive EMC, E4ready			QG65: CE, UL, Automotive EMC			CE, UL, Automotive EMC, E4ready		
Programmable	CANopen: by DIS Configurator set CAN and CAN object dictionary J1939: No			Yes, via CAN object dictionary			CANopen: by DIS Configurator set CAN and CAN object dictionary J1939: No		
Connection standard	M12 5p male & optional female (internal T-junction)								
Options:	Different CAN settings, cable with gland, connectors etc.								