QG series

Family overview Inclination

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Family	QG30	QG40	QG40N	QG40N Redundant	QG65 / QG76 analog	QG65N2 / QG76N2 analog	QG65N2 / QG76N2 analog Dynamic Inclinometer
Product life cycle status	released	Released	Released	Released	Not for new designs, discontinued Q4 2022	To be released Q3 2022	To be released Q3 2022
Measuring range	±10° ±30° ±90°	±10° ±30° ±90°	±10° ±30° ±90° 360°	±90° 360°	±10° ±30° ±90° 360°	±10° ±30° ±90° 360°	±10° ±30° ±90° 360°
Number of axis	1	2	2 1	1	2 1	2 1	2 1
Centering function	no	no	yes	yes	yes	yes	yes
Functional safety	no	no	no	full redundant	no	no	no
Supply Voltage	10- 30 Vdc / 5 Vdc	10- 30 Vdc / 5 Vdc	10- 30 Vdc	10- 30 Vdc	10- 30 Vdc	10- 32 Vdc	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 | 0.5-4,5V (for CAN: see page 2)	4-20mA | 0.5-4,5V (for CAN: see page 2)	4-20mA | 0.5-4,5V (for CAN: see page 2)
Output bandwidth	0 - 10Hz	0 - 10Hz	0 - 10Hz	0 - 10 Hz	0 - 10Hz	0 - 10Hz	0 - 100Hz
Output function	sinus curve	sinus curve	lineair	lineair	lineair	lineair	lineair
Resolution	0,03°	0,03°	0,1°	0,1°	0,01°	0,01°	0,01°
Accuracy (typ. @20°C)	0,3° 0,6° 0,9° (-45° . . +45°) offset error excluded, 1° typ.	0,3° 0,6° 0,9° (-45° . . +45°) offset error excluded, 1° typ.	0,5°	0,5°	0,04° 0,05° 0,09° (-60 . . +60°) 0,07°	0,07° (high accuracy) 0,15° (standard accuracy)	0.07° static, 0.5° dynamic (high accuracy) 0,15° static, 0,8° dynamic (standard accuracy)
Temperature coefficient (typ.)	0,02°/K	0,02°/K	0,04°/K	0,04°/K	0,005°/K	0.003°/K (high accuracy) 0.015°/K (standard accuracy)	0.003°/K (high accuracy) 0.015°/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	QG65: Reinforced plastic with steel fiber QG76: Stainless steel
Size	30x30x15mm	40x40x25mm	40x40x25mm	40x40x25	QG65: 60x50x27mm QG76: 70x60x33mm	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	-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)	QG65: IP67, IP69K QG76: IP67, IP69K (IP68 with gland/cable)
Certification	CE	CE, UL	CE, UL	CE	QG65: CE, Automotive EMC, UL QG76: CE, Automotive EMC, UL	QG65: CE, Automotive EMC, UL QG76: CE, Automotive EMC, UL	QG65: CE, Automotive EMC, UL QG76: CE, Automotive EMC, UL
Programmable	no	no	Yes, with optional configurator	Yes, with optional configurator	Factory programmable only	Yes, with optional configurator	Yes, with optional configurator
Connection standard	PVC cable 2m	M12 5-pole male	M12 5-pole male	2m PUR cable	M12 male 8p	M12 male 5p	M12 male 5p
Remarks						Two models: standard / high accuracy	Two models: standard / high accuracy
Options:	Different output formats (i.e. 0-5V, 0-10V etc), bandwidths, subranges, cables, connectors etc.						

QG series

Family overview Inclination

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Family	**QG65N/QG76N CANopen**			**QG65N2/QG76N2 CANopen/J1939**			**QG65N/QG76N CANopen Safety SIL CL 2/PLd**			**QG65D/QG76D CANopen/J1939 Dynamic Inclinometer**		
Product life cycle status	Discontinued			Released			Released			Released		
Measuring range	±30°	±90°	360°	±30°	±90°	360°	±30°	±90°	360°	±30°	±90°	360°
Number of axis	2		1	2		1	2		1	2		1
Centering function	yes			yes			yes			yes		
Functional safety	no			no			SIL CL 2 / PLd certified			no		
Supply Voltage	8 - 30 Vdc			10 - 32 Vdc			8 - 32 Vdc			8 - 32 Vdc		
Output format	CANopen			CANopen / SAE J1939			CANopen & CANopen Safety			CANopen / SAE J1939		
Output bandwidth	0 - 20Hz			0 - 10Hz			0 - 20Hz			0 - 100Hz		
Output function	lineair			lineair			lineair			lineair		
Resolution	0,05°			Programmable 0,01° (default) / 0,1° / 1°			0,05°			Programmable 0,01° (default) / 0,1° / 1°		
Accuracy (typ. @20°C)	0,15°			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.)	0,01°/K			0.003°/K (high accuracy) 0.015°/K (standard accuracy)			0,01°/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, E4 type approval			CE, UL, Automotive EMC, E4 type approval			QG65: CE, UL, Automotive EMC			CE, UL, Automotive EMC, E4		
Programmable	Yes, via CAN object dictionary			CANopen: by DIS Configurator set CAN and CAN opject dictionary J1939: No			Yes, via CAN object dictionary			CANopen: by DIS Configurator set CAN and CAN opject dictionary J1939: No		
Connection standard	M12 5p male & optional female (internal T-junction)											
Options:	Different CAN settings, cable with gland, connectors etc.											