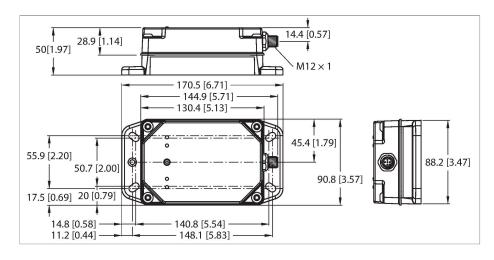


Q130RA-2450-AFQ Radar Sensor With Switching Output



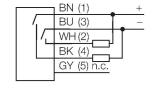
Technical data

Туре	Q130RA-2450-AFQ		
ID	3806646		
Radar data			
Function	Proximity switch		
Operating mode	Time-of-Flight		
Frequency band	K band, ISM region		
Frequency range	24.05 - 24.25 GHz		
Modulation	FMCW (Frequency Modulated Continuous Wave)		
Range	100040000 mm		
Number of radio channels	1		
Duty cycle	100 %		
Antenna connection	Internal, planar		
Output power ERP	5 dBm/3.3 mW ERP		
Output power EIRP	20 dBm/100 mW ERP		
Electrical data			
Operating voltage U _B	1230 VDC		
No-load current	≤ 100 mA		
Short-circuit protection	yes/Cyclic		
Reverse polarity protection	yes		
Output function	NO/NC programmable, PNP/NPN		
Readiness delay	≤ 3000 ms		
Response time typical	< 50 ms		
Mechanical data			
Design	Rectangular, Q130		
Dimensions	50 x 90.8 x 170.5 mm		

Features

- ■Protection class IP67
- ■M12 × 1 connector, 5-pin
- Operating voltage 12...30 VDC
- PNP/NPN switching output

Wiring diagram



Functional principle

An FMCW radar is a Frequency Modulated Continuous Wave radar. FMCW is the English abbreviation for Frequency Modulated Continuous Wave. Unmodulated continuous wave radars have the disadvantage that they cannot measure distances due to the lack of a time reference. Such a time reference for measuring the distance of stationary objects can be generated by means of frequency modulation. Using this method, a signal is emitted which continually changes frequency. A periodic frequency that increases and decreases linearly is used to limit the frequency range and to simplify the signal evaluation. The factor for the rate of change df/dt remains constant. If an echo signal is received, then this has a runtime delay as with the pulse radar, and thus a different frequency that is proportional to the distance. As a result, unlike with unmodulated Continuous Wave (CW) radars, both stationary and moving objects can be detected. Conformity

CE
ISM defined in ITU-R 5.138, 5.150 and 5.280
ETSI/EN 300 440
FCC part 15
RSS-210
ANATEL Category II
CMIIT Category G
ARIB STD T-73
KC mark — MSIP/RRA
NCC

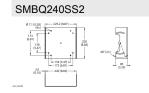


Technical data

Housing material	Plastic, ABS/Polycarbonate, Grey		
Electrical connection	Connector, M12 × 1		
Number of cores	5		
Ambient temperature	-40+65 °C		
Storage temperature	-40+65 °C		
Protection class	IP67		
Power-on indication	LED, Green		
Switching state	LED, Yellow, 1 LED each for output 1 and 2		
Excess gain indication	LED, red		
Tests/approvals			
Approvals	CE		

Accessories

SMBQ240SS1	3093811
19 (5.47) 19 (5.	Mounting panel for wall-mounting Q130RA and Q240RA radar sensors, frame can be tilted up to 20°, stainless steel
SMBWSQ120	3026881
200 (7.87) - 20.8 (80) - 10 (7.87) - 20.8 (80) - 10 (7.87) - 20.8 (80) - 10 (7.87) - 20.8 (80) - 10 (7.87) - 20.8 (80) - 10 (7.87) - 20.8 (80) - 20.8	Protective cap prevents water film or ice formation on the face, needed for rain or snow



Mounting bracket for wall-mounting Q130RA and Q240RA radar sensors, can be tilted up to 20° on two axes, stainless steel

3092485

Accessories

Dimension drawing	Туре	ID	
	MQDC-506-USB	3803770	USB serial converter, for parameterizing PRO indicator lights or sensors via PC, female connector, M12 × 1, 5-pin to plug, USB type A, length 0.7 m, can be extended to a maximum of 30 m, supplies the connected device with 20 V, supports Windows 7 (driver required) and Windows 10
e 15 M12x1 265	WKC4.5T-2/TEL	6625028	Connection cable, M12 female connector, angled, 5-pin, cable length: 2 m, jacket material: PVC, black; cULus approval