

APOLLON Q PP TECHNICAL DATASHEET



The Apollon-Q series offers wireless IoT level sensors with high-quality results thanks to a unique optical and radar measurement principle. They measure levels up to 2.50 meters for piece, liquid or bulk goods and are versatile for various applications including bins, chutes, channels and small containers such as waste baskets. With optimized range, short measurement and transmission intervals and support for MIOTY®, NB-IoT, LoRaWAN® and LTE-CAT-M1, they offer advanced functionalities.



VERSIONS

Prefix	Code product series	Communication	Sensors	Add. Sensors	Examples
S	(i)APOQ	LOEU,MIOTY,NB,NBM1	PP-T1	ACC	S-APOQ-LOEU-PP-T1-ACC

LIFETIME ESTIMATION

TRANSMISSIONS PER DAY	6	4	2
LoRaWAN® SF12 energizer ultimate lithium	5	5	5
LoRaWAN® SF7 energizer ultimate lithium	4,5	4,5	5
Mioty® energizer ultimate lithium	4,5	5	5
NB-IoT best case (60μwh/transmission)	4	4	4
Nb-IoT avg case (250μwh/transmission)	3,5	4	4
Nb-IoT worse case (1000μwh/transmission)	2	2,5	2,5

GENERAL PROPERTIES

FEATURE	VALUE	UNIT
Dimensions lwxhxh	109x53x33	mm
Weight	160	g
Operating temperature	-30 to 75 (up to 85°C or 125°C possible after consultation before ordering, depending on battery type)	°C
Storage temperature (recommended)	15 to 25	°C
Rel. Humidity during operation	5 to 99	%
Ip rating	IP 69k	
Sensors distance	ToF (optical) and/or radar	
Traffic light function	-	
Acoustic alarm function	-	
Provisioning	NFC	
Material	Glass fiber reinforced Polybutylenterephthalat PBT-GB-20	
NFC antenna	Integrated	
RF antenna	Integrated	
Accelerometer	Optional for flap openings and vandalism detection	
Batteries	Interchangeable	
Primary cell type	LoRaWAN and Mioty: 2 x 1.5V (recommended Energizer ultimate Lithium) or LiSOCL2 after consultation LS14500 (Saft) NB-IoT/LTE-M: 2 x 3V (recommended LiMnO2 Varta CR AH-R)	

CONNECTIVITY AND RF SPECIFICATION

FEATURE	VALUE	UNIT
RF standards		
Frequency	868	MHz
LoRaWAN®/mioty® EU		
Frequency cellular	Band 8, 20 (900 MHz, 800MHz)	MHz
Transmission power	14	dBm
LoRaWAN®/Mioty® EU		
Transmission power	23	dBm
NB-IoT		
LoRa® mac layer version	1.0.2	

SENSOR SPECIFICATION TOF (OPTICAL)

FEATURE	VALUE	UNIT
Measuring field	up to 16 x 16 points	
Opening angle	Standard 27° - opening angle adjustable	°
Wavelength	940nm	nm
Measuring frequency	Up to 50 Hz	Hz
Measuring range	2.50 meters standard (up to 3.50m possible)	m
Laser class	Class 1	
Minimum range	Standard 5 cm (up to 2 cm with lower accuracy possible)	cm
Repeatability	2 mm	mm
Lens properties	Hydrophobic and dust-repellent	

SENSOR SPECIFICATION RADAR

FEATURE	VALUE	UNIT
Kind	Pulse Radar (CPR)	
Opening angle	ca. 25° Ebene 1, ca. 15° Ebene 2	°
Frequency	60,5 GHz	GHz
Range	2,50 Meter standard (bis 3,50m möglich)	m
Absolute accuracy	nm	nm
Relative accuracy	µm	µm

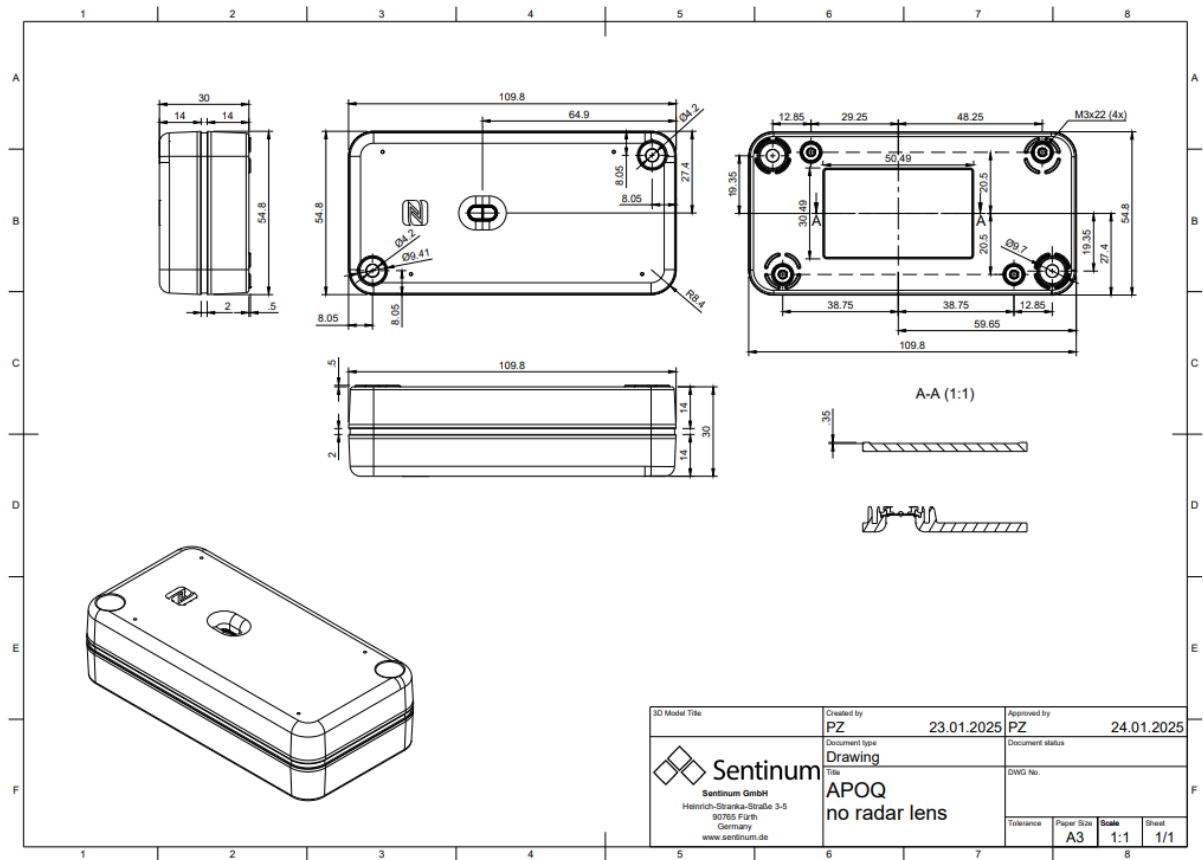
SENSOR SPECIFICATION TEMPERATURE FOR -ACC SENSOREN

FEATURE	VALUE	UNIT
Temperature range	-40 - +85	°C
Accuracy 0°C to 70°C	+/-0,8	°C
Accuracy -40°C to +85°C	+/-1,3	°C
Resolution	1	°C

SENSOR SPECIFICATION TEMPERATURE FOR NOT -ACC SENSOREN

FEATURE	VALUE	UNIT
Temperature range	-30 - +85	°C
Accuracy 0°C to 70°C	+/-2	°C
Accuracy -40°C to +85°C	+/-1,5	°C
Resolution	1	°C

TECHNICAL DRWAING APOQ PP (WITHOUT RADAR)



TECHNICAL DRAWING IAPOQ PP (RADAR INCLUDED)

