



Model Number

UB250-F77-F-V31-Y307641

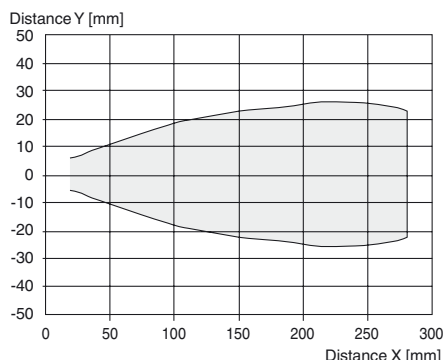
Ultrasonic direct detection sensor

Features

- Miniature design
- Frequency output
- NPN version
- Program input
- Degree of protection IP67

Diagrams

Characteristic response curve



Technical data

General specifications

Sensing range	35 ... 250 mm
Dead band	0 ... 35 mm
Standard target plate	20 mm x 20 mm
Transducer frequency	approx. 400 kHz
Response delay	≤ 50 ms

Nominal ratings

Time delay before availability t_v	≤ 150 ms
--------------------------------------	----------

Limit data

Permissible cable length	max. 300 m
--------------------------	------------

Indicators/operating means

LED yellow	object inside the scanning range
------------	----------------------------------

Electrical specifications

Rated operating voltage U_o	24 V DC
Operating voltage U_B	20 ... 30 V DC, ripple 10 % _{SS} ; 12 ... 20 V DC sensitivity reduced to 90 %
No-load supply current I_0	≤ 20 mA

Input

Input type	1 program input
Level	low level : 0 ... 0.7 V (Teach-In active) high level : U_B or open input (Teach-In inactive)
Input impedance	16 kΩ
Pulse length	≥ 3 s

Output

Output type	Frequency output, NPN
Rated operating current I_e	100 mA, short-circuit/overload protected
Resolution	Standard 2 Hz / mm
Repeat accuracy	± 2.5 %
Off-state current I_r	≤ 0.01 mA
Output frequency	frequency : 70 ... 500 Hz (35 ... 250 Hz), adjustable
Temperature influence	+ 0.17 %/K

Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Shock resistance	30 g, 11 ms period
Vibration resistance	10 ... 55 Hz, Amplitude ± 1 mm

Mechanical specifications

Connection type	M8 x 1 connector, 4-pin
Degree of protection	IP67
Material	
Housing	Polycarbonate
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Installation position	any position
Mass	10 g
Tightening torque, fastening screws	max. 0.2 Nm

Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2:2007+A1:2012 IEC 60947-5-2:2007 + A1:2012

Approvals and certificates

UL approval	cULus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

Safety Note



The use of this device in applications, where the safety of persons depends from the devices function, is not allowed!

Technical drawing of a 1/2 inch NPT female plug. The drawing includes three views: a front view, a side view, and a top view. The front view shows a cylindrical body with a threaded section at the bottom. Dimensions include a total height of 31, a threaded section height of 9, a shoulder height of 18, and a body diameter of 12. The bottom thread is specified as M8 x 1. The side view shows a rectangular profile with a total width of 23, a shoulder width of 3.2, and a total height of 25. The bottom section has a width of 14 and a height of 3. The top view shows a circular cross-section with a central hole and a diameter of 3.2.

ET	unusable area	Sensing range 35 ... 250 mm	> 250 mm or no object
Open or +U _B	Undefined	70 ... 500 Hz	500 Hz
-U _B	Undefined	35 ... 250 Hz	250 Hz

