

M25U Series

Stainless Steel Opposed Ultrasonic Sensors



- 316 stainless steel with no thread, gaps or seams to trap debris
- Constructed with FDA approved materials and rated to IP69K, IEC IP67 (NEMA 6) with fully encapsulated electronics
- Withstands high-temperatures sprays of up to 80° C and 1500 psi occurring every few hours
- Features high-immunity to ambient electrical and sonic noise

M25U

Range*	Frequency	Connection	Output	Response Time	Models
Normal Speed: 500 mm High Speed: 250 mm	140 kHz	4-pin Euro QD	—	—	M25UEQ8 Emitter
		5-pin Euro QD	Bipolar NPN/PNP	Normal Speed: 4.0 ms High Speed: 3.0 ms	M25URBQ8 Receiver



Connection options: A model with a QD requires a mating cordset.

* M25U receivers may be wired for either of two speed modes: Normal or High, depending on hookup. The Normal-Speed mode offers a sensing range of 500 mm. The Normal-Speed mode maximizes sensing energy, as is required in demanding environments. The High-Speed mode offers a sensing range of 250 mm. The High-Speed mode maximizes sensing response, as is needed in high-speed counting applications.



Euro-Style with Shield
Straight connector models listed;
for right-angle, add **RA** to the end
of the model number (example,
MQDEC2-506RA)

5-Pin

MQDEC2-506
2 m (6.5')
MQDEC2-515
5 m (15')
MQDEC2-530
9 m (30')

Euro-Style Washdown
Straight connector models only



5-Pin

MQDCWD-506
2 m (6.5')
MQDCWD-530
9 m (30')



*Additional cordset information is available
See page 758*



SMBM25A



SMBM25B

*Additional bracket information is available
See page 725*

M25U Specifications

Sensing Range	Normal Speed: 500 mm High Speed: 250 mm		
Ultrasonic Frequency	140KHz		
Supply Voltage and Current	Emitter: 10 to 30 V dc (10% max. ripple) at less than 85 mA Receiver: 10 to 30 V dc (10% max. ripple) at less than 38 mA (exclusive of load)		
Supply Protection Circuitry	Protected against reverse polarity and transient voltages		
Receiver Output Configuration	Bipolar (1 NPN & 1 PNP) solid-state output; Normally Open (output is activated when an object blocks the sensing beam)		
Output Rating	100 mA (each output) with short circuit protection; see Note 1 OFF-state leakage current: NPN: < 200 μ A sinking ON-state saturation voltage: NPN: < 1.6 V @ 100 mA PNP: < 10 μ A sourcing PNP: < 3.0 V @ 100 mA		
Output Protection Circuitry	Protected against short circuit conditions		
Output Response Time	Normal Speed: 4.0 milliseconds High Speed: 3.0 milliseconds		
Repeatability	1 millisecond		
Delay at Power-up	< 250 milliseconds		
Delay for Switching Between Normal and High Speed	20 milliseconds		
Indicators	Green Power LED: indicates Power ON Amber Output LED: indicates output activated		
Construction	Housing: 316 Stainless Steel LED window: Polysulphone		
Environmental Rating	Leakproof design, rated IEC IP67 (NEMA 6), IP69K		
Operating Conditions	Temperature: -20 to +70 °C Max. Relative Humidity: 95% at 50° C non-condensing		
Vibration and Mechanical Shock	All models meet Mil. Std. 202F requirements method 201A (vibration: 10 to 60 Hz max. amplitude 0.06", max. acceleration 10G). Also meets IEC 947-5-2; 30G 11 ms duration.		
Notes	1. NPN < 200 μ A for load impedance > 3 K Ω ; for load current of 100 mA, leakage < 1% of load current 2. When mounting the M25U, care should be taken to acoustically isolate the emitter and receiver to eliminate sound energy coupling between the sensor pair. This is best accomplished with elastomeric materials between the sensor and rigid mounting brackets.		
Certifications			