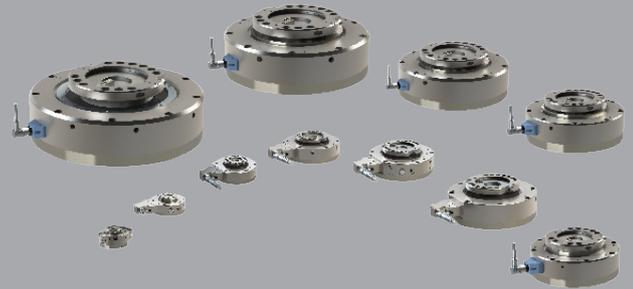


QuickSTOP™ Collision Sensor

QuickSTOP™ is a dynamically variable collision sensor that operates on air pressure. Upon impact, the air chamber is opened, and the shutdown signal is immediately sent to the system controller.

Advantages:

- Dynamically Variable Trip Points
 - Programmable sensor at all speeds of operation
- Permanent Repeatability
 - Non-compressive, metal-to-metal seal
- Senses Angular and Compressive Forces
 - Protection in the X, Y, and Z axes
- Monitors Performance Readiness



SPECIFICATIONS

Model	Compliance Angle	Axial Compliance (z+)	Rotary Compliance	Operating Pressure	Mx and My Torque Trip Point *	Mz Torque Trip Point *	Repeatability at Tool Mounting Surfaces X and Y	Rotational Repeatability	Mass	Center of Mass (From Robot Adaptor Interface Plate)	Average Response Time **
	deg.	mm (in)	deg.	bar (psi)	Nm (in-lb)	Nm (in-lb)	mm (in)	deg (rad * 10 ⁻³)	kg (lb)	mm (in)	ms
QS-7	± 5	1.38 (0.054)	No Limit	1.0 - 6.0 (14.5 - 87)	0.3 - 1.5 (2.7 - 13.2)	0.3 - 1.5 (2.5 - 13.5)	± 0.013 (± 0.0005)	± 0.028 (± 0.489)	0.11 (0.24)	11.0 (0.43)	4 - 7
QS-25	± 5	3.40 (0.134)	No Limit	1.0 - 6.0 (14.5 - 87)	1.0 - 6.4 (9 - 56)	1.0 - 6.4 (9 - 56)	± 0.013 (± 0.0005)	± 0.024 (± 0.419)	0.26 (0.56)	18.6 (0.73)	2 - 6
QS-50	± 5	4.30 (0.169)	No Limit	1.0 - 6.0 (14.5 - 87)	2.6 - 11.8 (23 - 104)	2.2 - 14.0 (19 - 124)	± 0.025 (± 0.0010)	± 0.024 (± 0.419)	0.29 (0.65)	20.3 (0.80)	2 - 6
QS-100	± 5	4.50 (0.177)	No Limit	1.0 - 6.0 (14.5 - 87)	4.1 - 20.3 (36 - 180)	5.3 - 30.4 (47 - 270)	± 0.025 (± 0.0010)	± 0.024 (± 0.419)	0.45 (0.99)	21.6 (0.85)	4 - 7
QS-200	± 5	5.20 (0.205)	No Limit	1.0 - 6.0 (14.5 - 87)	5.9 - 32.4 (52 - 287)	7.5 - 45.2 (66 - 400)	± 0.025 (± 0.0010)	± 0.024 (± 0.419)	0.68 (1.50)	25.7 (1.01)	4 - 7
QS-400	± 5	6.60 (0.265)	No Limit	1.0 - 6.0 (14.5 - 87)	11.3 - 63.9 (100 - 566)	11.8 - 84.6 (104 - 749)	± 0.025 (± 0.0010)	± 0.024 (± 0.419)	1.30 (2.87)	32.6 (1.29)	4 - 8
QS-800	± 5	9.30 (0.366)	± 25	1.4 - 6.0 (20.0 - 87)	36 - 158 (292 - 1,400)	53 - 255 (427 - 2,250)	± 0.025 (± 0.0010)	± 0.029 (± 0.500)	3.72 (8.20)	46.8 (1.84)	4 - 8
QS-1500	± 5	10.80 (0.425)	± 25	1.4 - 6.0 (20.0 - 87)	87 - 371 (727 - 2,573)	82 - 291 (784 - 3,284)	± 0.038 (± 0.0015)	± 0.029 (± 0.500)	5.50 (12.12)	54.6 (2.15)	4 - 18
QS-3000	± 5	14.30 (0.563)	± 25	1.4 - 6.0 (20.0 - 87)	105 - 414 (924 - 3,664)	531 - 478 (1,353 - 4,232)	± 0.038 (± 0.0015)	± 0.029 (± 0.500)	12.20 (26.90)	66.0 (2.60)	4 - 18
QS-4500	± 5	10.68 (0.420)	± 25	1.4 - 6.0 (20.0 - 87)	220 - 614 (1,950 - 5,433)	345 - 1,185 (3,315 - 10,490)	± 0.038 (± 0.0015)	± 0.029 (± 0.500)	12.80 (28.22)	66.0 (2.60)	4 - 18
QS-7500	± 4	12.68 (0.499)	± 25	1.4 - 6.0 (20.0 - 87)	472 - 1,049 (4,181 - 9,289)	1,007 - 2,098 (8,919 - 18,568)	± 0.038 (± 0.0015)	± 0.029 (± 0.500)	16.80 (37.04)	73.0 (2.88)	4 - 18

Rotational Repeatability at Tool Mounting Surface Z: **± 0.013 mm (± 0.0005 in)**

Operating Temperature: **0 - 70 °C (32 - 158 °F)** (From QS-7 to QS-400) / **0 - 100 °C (32 - 212 °F)** (From QS-800 to QS-7500)

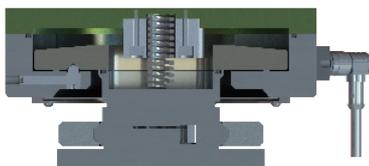
Noise Emissions (Sound Pressure): **≤ 70 dB(A) in any direction**

* Torque Trip Points are Continuously Variable.

** Average Response Time varies with Air Pressure and Speed of Impact.

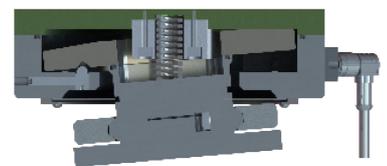
Note: Specifications provided are maximum recommended limits under static conditions. For correct product sizing, consideration must be given to all dynamic forces, including manipulator inertia, tooling configuration, and external process forces. Please contact APPLIED ROBOTICS Applications Engineering for correct product sizing assistance.

SECTIONAL DIAGRAM



Switch Information

High reliability aircraft snap acting type.
UL/CSA rated at 3 amps, 120 VAC.
Average mechanical life: 7 million cycles
UL recognized rating: 42.4 VDC Max., 3 amps Max.



PRODUCT INFORMATION

• Coolant Resistant

- o Includes protective boot, coolant resistant switch assembly, and coolant resistant signal connector for additional environmental protection.

• Arc Welding

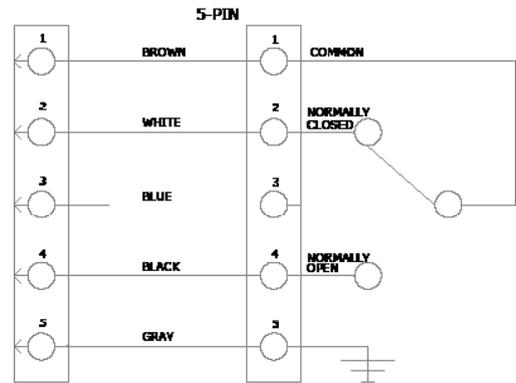
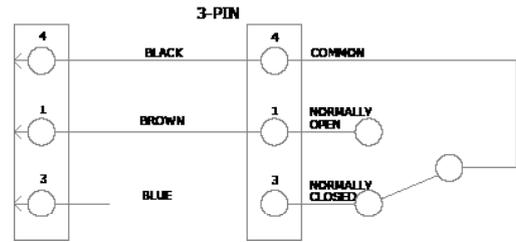
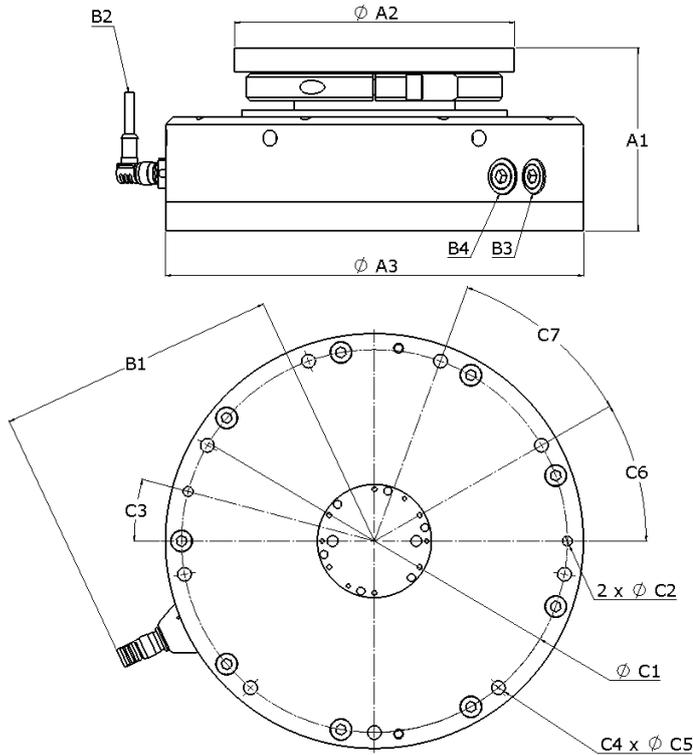
- o Designed for arc welding, laser cutting, or plasma cutting; featuring a heat resistant cable, metal screen for cavity protection, insulator plate, and an inverted design to avoid debris build-up.

• Heavy Payloads

- o Rotational limiting system to prevent the tooling from freely spinning while still being compliant after collision.

• Robot-Specific

- o Product Adaptor Kits to easily connect to equipment.



	Overall Dimensions			Connection Information				Bolt Pattern	Mounting Dimensions						
	A1	A2	A3	B1	B2	B3	B4		Dowel Holes		Bolt Holes				
								C1	C2	C3	C4	C5	C6	C7	
QS-7	27 (1.06)	40 (1.57)	40 (1.57)	39 (1.54)	3-PIN M5 MALE	M3x0.5	N/A	34.50 (1.358)	2.545/2.571 (0.1002/0.1012)	0°	4	M3	45°	90°	
QS-25	32 (1.26)	40 (1.57)	63.5 (2.50)	65 (2.56)	3-PIN M8 MALE	M5x0.8	10-32UNF-2B	56.00 (2.205)	2.545/2.571 (0.1002/0.1012)	0°	6	M2.5	15°	60°	
QS-50	35 (1.38)	43 (1.69)	71 (2.80)	66 (2.60)	3-PIN M8 MALE	M5x0.8	10-32UNF-2B	65.03 (2.560)	2.545/2.571 (0.1002/0.1012)	0°	6	M2.5	30°	60°	
QS-100	37 (1.46)	54 (2.13)	83 (3.27)	73 (2.87)	3-PIN M8 MALE	M5x0.8	10-32UNF-2B	77.00 (3.031)	2.545/2.571 (0.1002/0.1012)	0°	6	M2.5	30°	60°	
QS-200	43.5 (1.71)	63 (2.48)	97 (3.82)	78 (3.07)	3-PIN M8 MALE	M5x0.8	10-32UNF-2B	90.00 (3.543)	3.045/3.071 (0.1199/0.1209)	0°	6	M3	30°	60°	
QS-400	55.5 (2.19)	80 (3.15)	122 (4.80)	92 (3.62)	3-PIN M8 MALE	M5x0.8	10-32UNF-2B	113.00 (4.449)	4.055/4.094 (0.1596/0.1612)	0°	8	M4	25°	45°	
QS-800	81.5 (3.21)	112 (4.41)	167 (6.57)	135 (5.31)	5-PIN M12 MALE	1/4 BSPT	1/4 NPT	154.00 (6.063)	6.055/6.094 (0.2384/0.2399)	15°	8	M6	25°	45°	
QS-1500	95 (3.74)	130 (5.12)	193 (7.60)	145 (5.71)	5-PIN M12 MALE	1/4 BSPT	1/4 NPT	179.00 (7.047)	6.030/6.050 (0.2374/0.2382)	15°	9	M6	28°	40°	
QS-3000	115 (4.53)	174 (6.85)	260 (10.24)	174 (6.85)	5-PIN M12 MALE	3/8 BSPT	3/8 NPT	240.00 (9.449)	6.030/6.050 (0.2374/0.2382)	15°	9	M8	30°	40°	
QS-4500	115 (4.53)	174 (6.85)	260 (10.24)	174 (6.85)	5-PIN M12 MALE	3/8 BSPT	3/8 NPT	240.00 (9.449)	6.055/6.094 (0.2384/0.2399)	15°	9	M8	30°	40°	
QS-7500	115 (4.53)	174 (6.85)	288 (11.34)	190 (7.48)	5-PIN M12 MALE	3/8 BSPT	3/8 NPT	266.00 (10.472)	6.055/6.094 (0.2384/0.2399)	15°	9	M8	25°	40°	

* Dimensions are in millimeters (inches).

** Product Adaptor Kits do not come standard with QuickSTOP™ assemblies but can be provided upon request.

*** All dimensions are descriptive and subject to variation for technical upgrading. We reserve the right to make variations without prior notification.



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