Compact Limit Switches

AEM2G Series (360 Degree Spring Actuator)

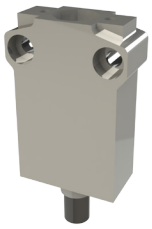
- Die-cast metal housings
- 3m cable/5-pin M12 quick disconnect (center and right)
- 1 N.O. and 1 N.C. contact on all units
- Compact size with standard 25 mm hole spacing
- Wide offering of head actuators
- Epoxy resin-filled for IP67 rating
- Both snap-action (Z11) and slow-make/slow-break (X11) contacts available

AEM2G Series Compact Limit Switches Selection Chart

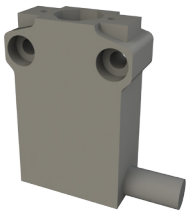
Part Number	Price	Actuator Type	Max. Actuation Speed (m/s)	Min. Actuation Force (N)/ Torque (Nm)	Min. Positive Opening Force (N)/ Torque (Nm)	Head Dimensions	Contact Config. Diagram	Connection Type	Photo
AEM2G92Z11-3	$27.00	360 degree stainless steel spring with nylon tip	0.1	10	30	Figure 16	Diagram 1	Cable Out (Bottom)	A
AEM2G9201Z11-3R	$24.00							Cable Out (Right)	
AEM2G9201Z11M	$21.00							5-Pin M12 Quick Disconnect (Bottom)	
AEM2G9201Z11MR	$21.00							5-Pin M12 Quick Disconnect (Right)	
AEM2G93Z11-3	$27.00	360 degree stainless steel spring	1.0	0.10	—	Figure 17	Diagram 1	Cable Out (Bottom)	B
AEM2G9301Z11-3R	$24.00							Cable Out (Right)	
AEM2G9301Z11M	$22.00							5-Pin M12 Quick Disconnect (Bottom)	
AEM2G9301Z11MR	$22.00							5-Pin M12 Quick Disconnect (Right)	

A

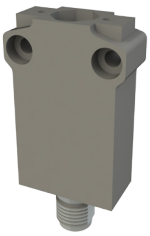
B



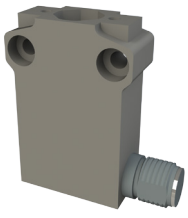
Cable Out (Bottom)



Cable Out (Right)



5-Pin M12 Quick Disconnect (Bottom)



5-Pin M12 Quick Disconnect (Right)

Compact Limit Switches Dimensions

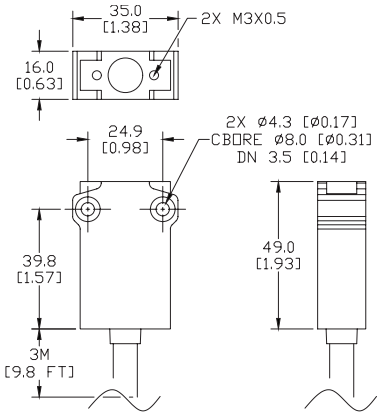
AEM2G Series Bodies

Dimensions

mm [inches]

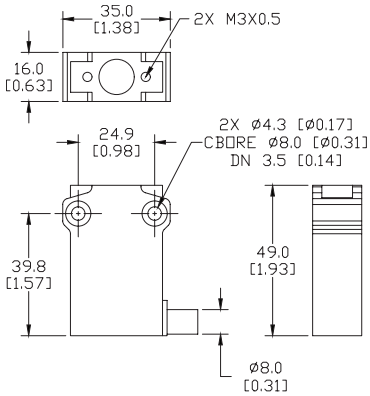
AEM2Gxxxx-3

Cable Out (Bottom)



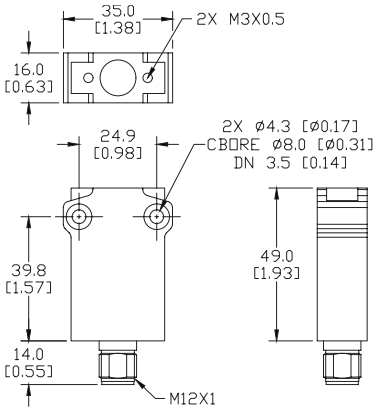
AEM2Gxxxx-3R

Cable Out (Right)



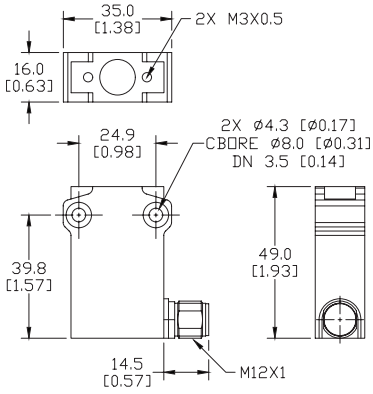
AEM2Gxxxx-M

5-Pin M12 Quick Disconnect (Bottom)



AEM2Gxxxx-MR

5-Pin M12 Quick Disconnect (Right)



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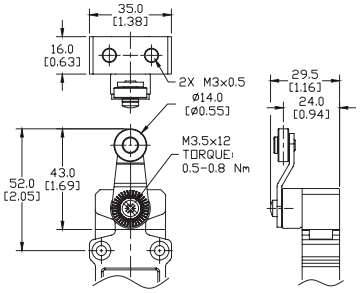
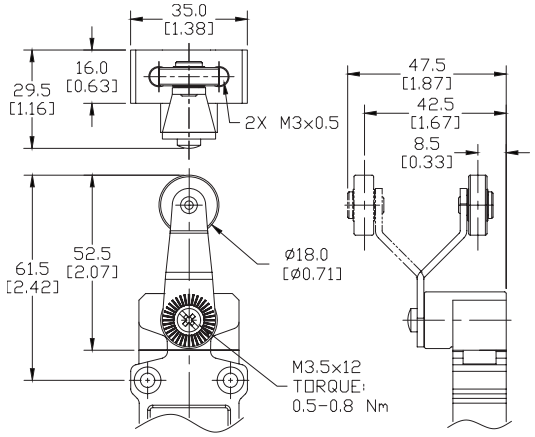
Compact Limit Switches Dimensions, cont.

Figure 10



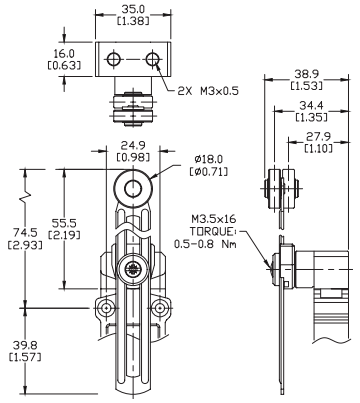
AEM2G41*11-3 AEM2G42*11-3
AEM2G43*11-3

Figure 11



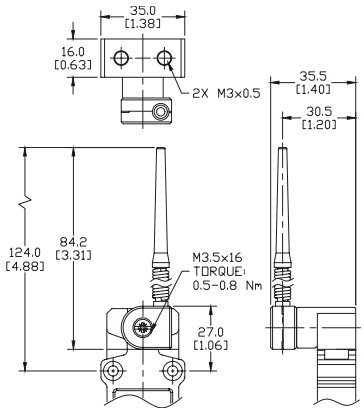
AEM2G45*11-*

Figure 12



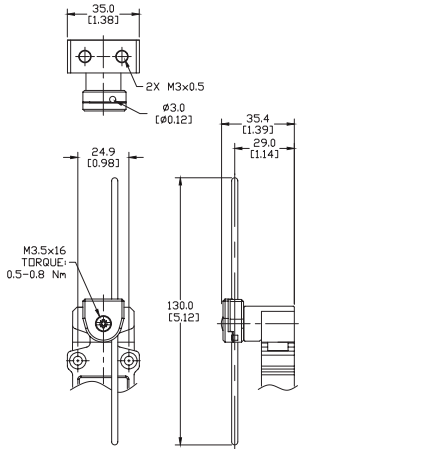
AEM2G51*11-*

Figure13



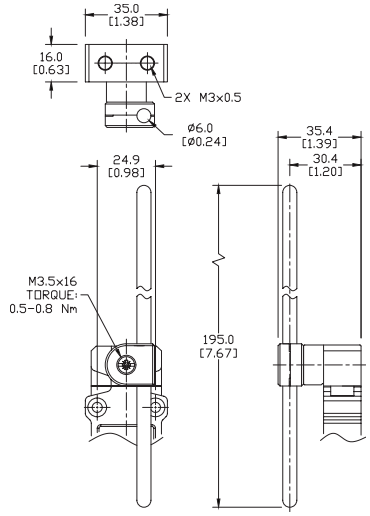
AEM2G61*11-*

Figure 14



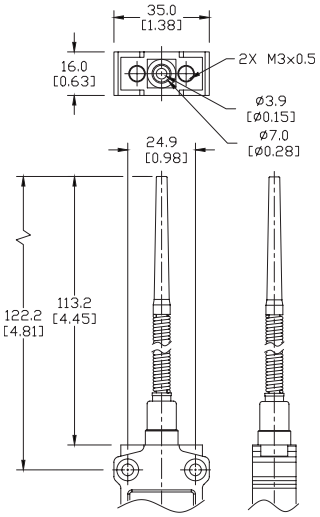
AEM2G71*11-* AEM2G75*11-*
AEM2G72*11-*

Figure 15



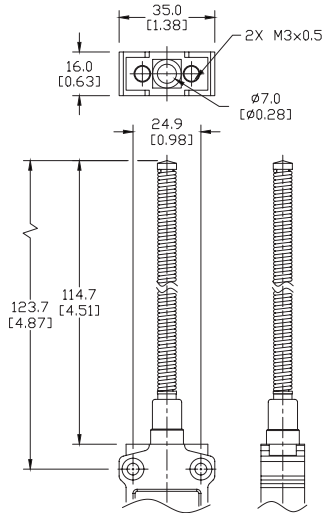
AEM2G73*11-*
AEM2G74*11-*

Figure 16



AEM2G92*11-*

Figure 17



AEM2G93*11-*

See our website, www.AutomationDirect.com, for complete Engineering drawings.

Compact Limit Switches

Compact Limit Switches Specifications		
Approvals		
UL file E191072, CE		
Environmental		
Degree of Protection		IP67 according to IEC 60529
Temperature Range		Storage: -40° to 70°C (-40° to 158°F). Operating: -25° to 70°C (-13° to 158°F)
Mechanical Ratings		
Mechanical Life		10 million operations. Models G16, G92, G93: 5 million operations.
Enclosure Material		ZAMAK (zinc alloy)
Contact Blocks Rating		
Positive Opening		Yes, except G61, G92, G93
Electrical Ratings	***AC15***	Make: 100A @ 24VAC; 60A @ 120VAC; 30A @ 240VAC Break: 10A @ 24VAC; 6A @ 120VAC; 3A @ 240VAC
	DC13	2.8A @ 24VDC; 0.55A @ 125VDC; 0.27A@250VDC
Maximum Switching Frequency		Contact blocks: all one cycle per second
Repeat Accuracy		0.05 mm on the operating points at 1 million operations
Short-Circuit Protection		10A @ <500V
Contact Resistance		25 m Ω
Recommended Minimum Operating Speed		With slow-action contacts: 500 mm per minute
Rated Insulation Voltage		B300, R300 according to UL508; 400V (degree of pollution: 3) according to IEC 60947-1
Connection Type		Cable: 3m PVC cable, 5 x 0.75mm^2 (18 AWG). Overall cable diameter: 8.20 mm (0.32 in.) Connector: 5-pin M12 quick disconnect
Wiring Terminal Markings		According to CENELEC EN50013
Electrical Protection		Class I according to IEC60536-1
Contact Blocks Performance		
Operation Frequency		3600 ops/h
Electrical Durability (according to IEC 947-5-1)		Utilization categories AC-15 and DC-13; load factor of 0.5.
Torque		All: 0.5 Nm (0.8 Nm max)

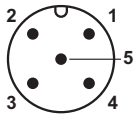
Compact Limit Switches
Contacts Configuration

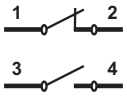
Limit switch types

Snap-action contact: A contact element in which the contact motion is independent of the speed of the actuator. This feature ensures reliable electrical performance even in applications involving very slow moving actuators.

Slow-make/slow-break contacts: A contact element in which the contact motion is dependent on the actuator speed.

5-Pin M12 connector





Contacts Configuration

Diagram 1

Z11 Snap-action contacts
1 N.O. and 1 N.C.

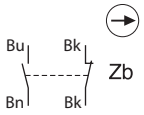
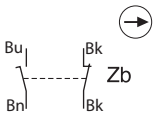


Diagram 2

X11 Slow-make/slow-break contacts
1 N.O. and 1 N.C.



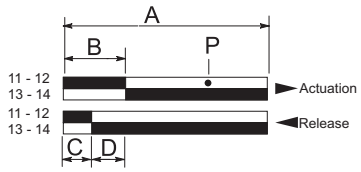
Note: Green/yellow)Pin 5 wire is physical earth ground.

= Contact open

= Contact closed

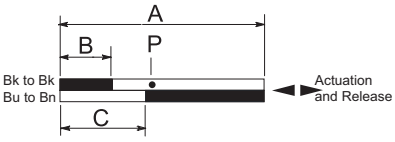
Bar Charts

Z11



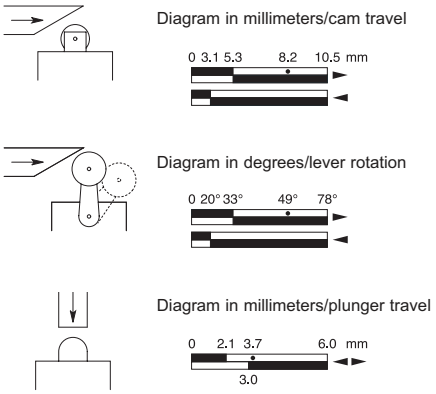
A = Max. travel of the operator in mm or degrees
B = Tripping travel of both contacts on actuation
C = Tripping travel of both contacts on release
D = Differential travel (between actuation and release)
P = Point from which positive opening is assured during actuation

X11



A = Max. travel of the operator in mm or degrees
B = Tripping travel of the N.C. contact
C = Tripping travel of the N.O. contact
P = Point from which positive opening is assured during actuation

Bar Chart Examples
(cam angle is 30 degrees)



Note: Values represent travel of cam in direction of arrow.

Part Series	Contact Configuration	Displacement Values mm(in) or degrees			
		A	B	C	P
AEM2G11, AEM2G16, AEM2G18, AEM2G21	Z11	5.0 (0.20)	2.2 (0.09)	1.4 (0.06)	4.3 (0.17)
AEM2G11, AEM2G16, AEM2G21	X11	5.0 (0.20)	1.9 (0.07)	3.2 (0.13)	3.4 (0.13)
AEM2G12, AEM2G13, AEM2G14, AEM2G15, AEM2G17, AEM2G18, AEM2G22, AEM2G23, AEM2G24, AEM2G25	Z11	8.7 (0.34)	3.8 (0.15)	2.4 (0.09)	7.5 (0.30)
AEM2G12, AEM2G13, AEM2G14, AEM2G15, AEM2G22, AEM2G23, AEM2G24, AEM2G25	X11	8.7 (0.34)	3.3 (0.13)	5.7 (0.22)	5.9 (0.23)
AEM2G41, AEM2G42, AEM2G43, AEM2G45, AEM2G51, AEM2G71, AEM2G72, AEM2G73, AEM2G74, AEM2G75	Z11	74°	32°	21°	65°
AEM2G41, AEM2G42, AEM2G43, AEM2G45, AEM2G51, AEM2G71, AEM2G72, AEM2G73, AEM2G74, AEM2G75	X11	74°	28°	48°	50°
AEM2G61	Z11	74°	32°	21°	Not positive-opening
AEM2G61	X11	74°	28°	48°	
AEM2G92	Z11		20°	10°	
AEM2G93	Z11		20°	10°	