Compact Limit Switches

AEM2G Series Compact Limit Switches

- Die-cast metal housings
- 3-meter cable on all units
- 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
- N.C. contacts are positive-opening operated unless otherwise noted. ⊕


A


B


C


D


E


F

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	Photo
AEM2G11Z11-3	<--->	Metal plunger	0.5	15	30	Figure1	1	A
AEM2G11X11-3	<--->						2	
AEM2G12Z11-3	<--->	Metal plunger with metal roller actuator	0.1	10		Figure 2	1	B
AEM2G12X11-3	<--->						2	
AEM2G13Z11-3	<--->	Metal plunger with nylon roller actuator					1	C
AEM2G13X11-3	<--->						2	
AEM2G14Z11-3	<--->	Metal plunger with metal cross roller actuator				Figure 3	1	D
AEM2G14X11-3	<--->						2	
AEM2G15Z11-3	<--->	Metal plunger with nylon cross roller actuator					1	E
AEM2G15X11-3	<--->						2	
AEM2G16Z11-3	<--->	Metal plunger with dust cap	0.5	15		Figure 4	1	F
AEM2G16X11-3	<--->						2	
AEM2G21Z11-3	<--->	Metal plunger actuator with fixing nuts				Figure 5	1	G
AEM2G21X11-3	<--->						2	
AEM2G22Z11-3	<--->	Metal plunger with metal roller actuator with fixing nuts	0.1	10		Figure 6	1	H
AEM2G22X11-3	<--->						2	
AEM2G23Z11-3	<--->	Metal plunger with nylon roller actuator with fixing nuts					1	I
AEM2G23X11-3	<--->						2	
AEM2G24Z11-3	<--->	Metal plunger with metal cross roller actuator with fixing nuts				Figure 7	1	J
AEM2G24X11-3	<--->						2	
AEM2G25Z11-3	<--->	Metal plunger with nylon cross roller actuator with fixing nuts					1	K
AEM2G25X11-3	<--->						2	
AEM2G41Z11-3	<--->	Lever with 14 mm nylon roller actuator	1.5	0.08	0.28	Figure 8	1	L
AEM2G41X11-3	<--->						2	


G


H


I


J


K


L

Compact Limit Switches


M


N


O


P

AEM2G Series Compact Limit Switches Selection Chart, Continued								
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*	*Photo*
AEM2G42Z11-3	<--->	Lever with 14 mm metal roller actuator	1.5	0.08	0.28	Figure 8	1	M
AEM2G42X11-3	<--->						2	
AEM2G43Z11-3	<--->	Lever with 14 mm ball bearing roller actuator					1	N
AEM2G43X11-3	<--->						2	
AEM2G45Z11-3	<--->	Lever with 18 mm nylon roller actuator				Figure 9	1	O
AEM2G45X11-3	<--->						2	
AEM2G51Z11-3	<--->	Adjustable lever with 18 mm nylon roller actuator				Figure 10	1	P
AEM2G51X11-3	<--->						2	
AEM2G61Z11-3	<--->	Lever with nylon-tipped stainless steel spring actuator			–	Figure 11	1*	Q
AEM2G61X11-3	<--->						2*	
AEM2G71Z11-3	<--->	Adjustable 3 mm stainless steel rod actuator			0.28	Figure 12	1	R
AEM2G71X11-3	<--->						2	
AEM2G72Z11-3	<--->	Adjustable 3 mm fiberglass rod actuator					1	S
AEM2G72X11-3	<--->						2	
AEM2G73Z11-3	<--->	Adjustable 6 mm nylon rod actuator				Figure 13	1	T
AEM2G73X11-3	<--->						2	
AEM2G74Z11-3	<--->	Adjustable 6 mm fiberglass rod actuator					1	U
AEM2G74X11-3	<--->						2	
AEM2G75Z11-3	<--->	Adjustable 3 mm square steel actuator				Figure 12	1	V
AEM2G75X11-3	<--->						2	
AEM2G92Z11-3	<--->	360 degree stainless steel spring with nylon tip actuator	1.0	0.10	–	Figure 14	1*	W
AEM2G93Z11-3	<--->	360 degree stainless steel spring actuator				Figure 15	1*	X

**** Note: Not positive-opening***


Q


R


S


T


U


V


W

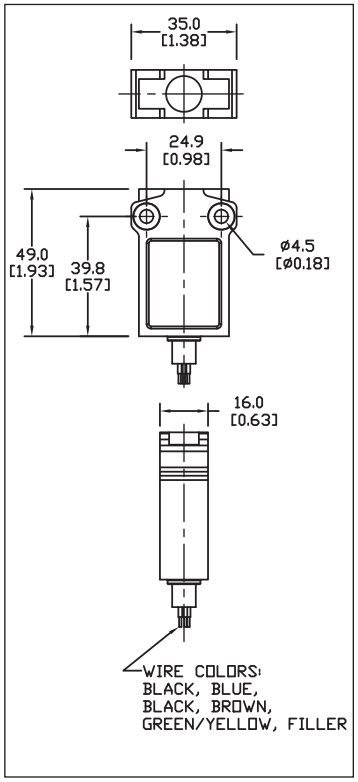

X

Compact Limit Switches Dimensions

Dimensions

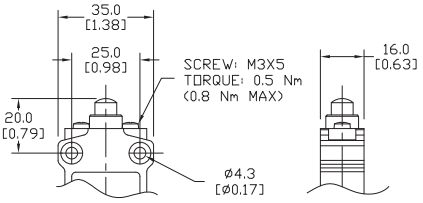
mm [inches]

AEM2G Series Body



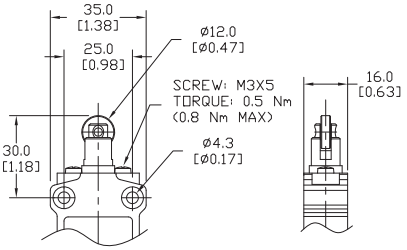
AEM2G Series Heads Figures 1 thru 15

Figure 1



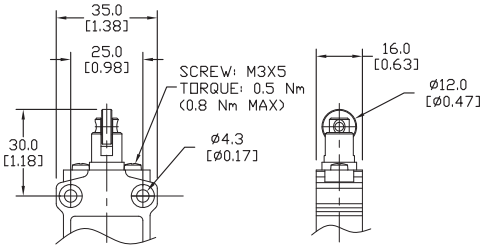
AEM2G11*11-3

Figure 2



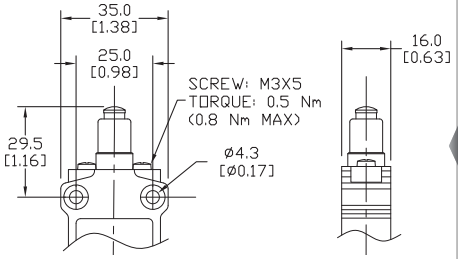
AEM2G12*11-3
AEM2G13*11-3

Figure 3



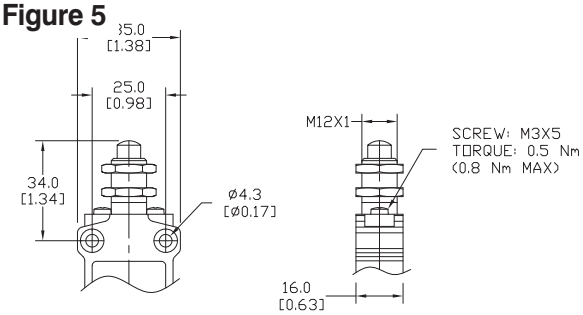
AEM2G14*11-3
AEM2G15*11-3

Figure 4



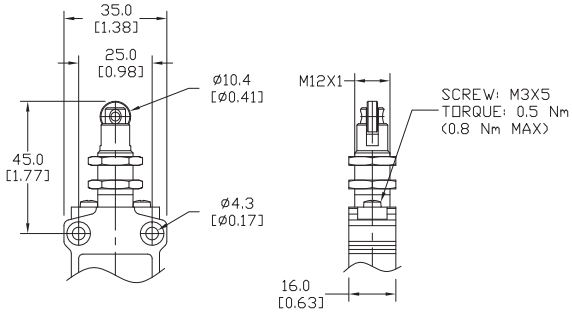
AEM2G16*11-3

Figure 5



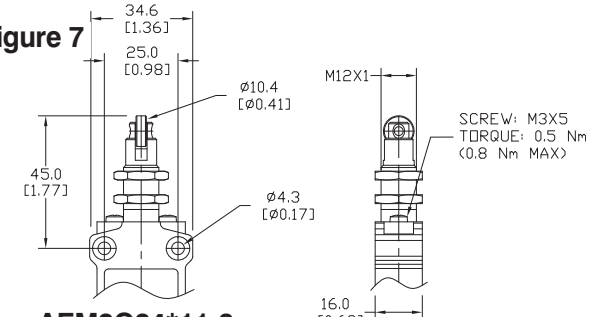
AEM2G21*11-3

Figure 6



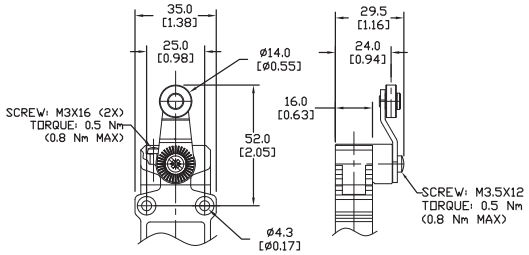
AEM2G22*11-3
AEM2G23*11-3

Figure 7



AEM2G24*11-3
AEM2G25*11-3

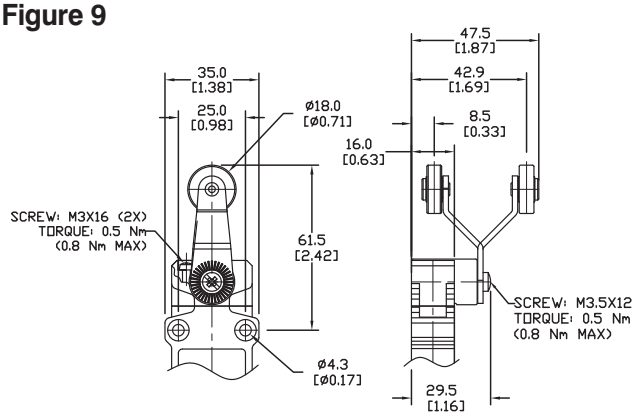
Figure 8



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

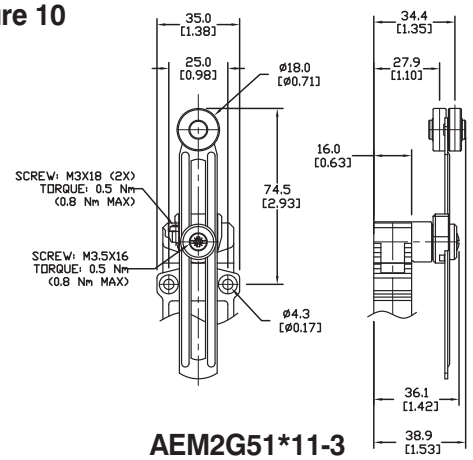
Compact Limit Switches Dimensions, cont.

Figure 9



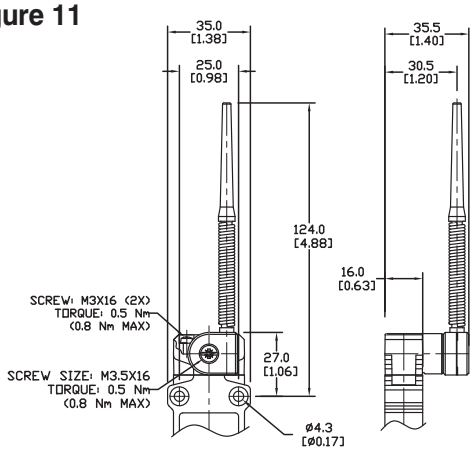
AEM2G45*11-3

Figure 10



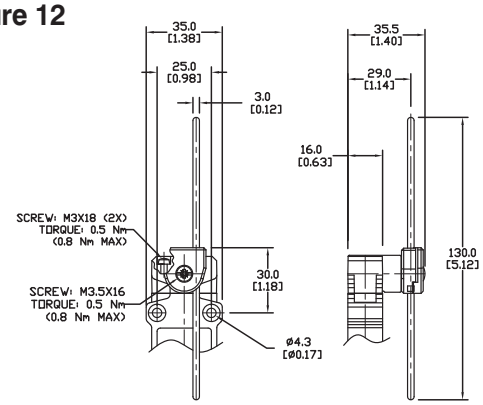
AEM2G51*11-3

Figure 11



AEM2G61*11-3

Figure 12

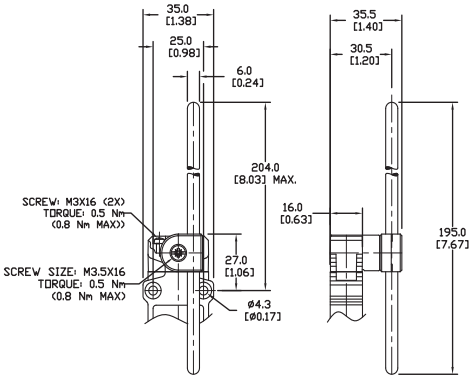


AEM2G71*11-3

AEM2G72*11-3

AEM2G75*11-3

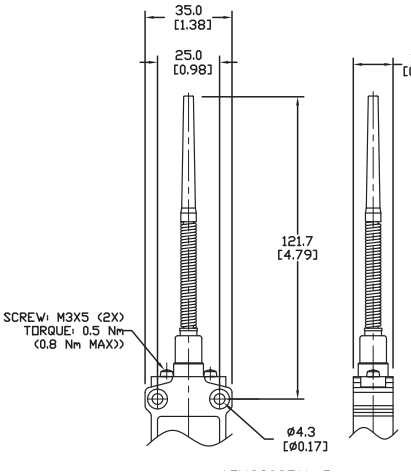
Figure 13



AEM2G73*11-3

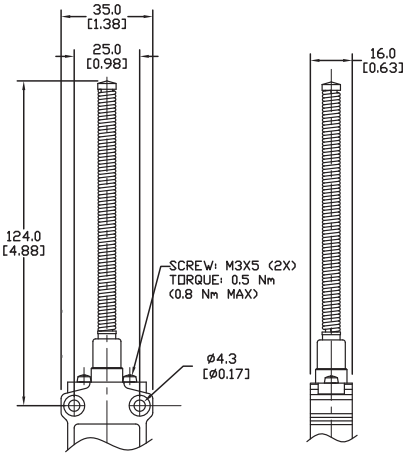
AEM2G74*11-3

Figure 14



AEM2G92Z11-3

Figure 15



AEM2G93Z11-3

Compact Limit Switches

Compact Limit Switches Specifications		
Approvals		
UL file E191072, CE, RoHS		
Environmental		
Degree of Protection		IP67 according to IEC 529
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
Enclosure Material		ZAMAK (zinc alloy)
Contact Blocks Rating		
Positive Opening		Yes, except G61, G92, G93
Electrical Ratings	***AC15***	Make: 50A @ 24VAC; 30A @ 120VAC; 15A @ 240VAC Break: 5A @ 24VAC; 3A @ 130VAC; 1.5A @ 230VAC
	DC13	1.1A @ 24VDC; 0.22A @ 125VDC; 0.1A@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		6A @ <500V
Contact Resistance		25 milli 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 947-1
Cable Type		3m PVC cable, 5 x 0.75mm^2 (18 AWG). Overall cable diameter: 8.20 mm (0.32 in.)
Wiring Terminal Markings		According to CENELEC EN50013
Electrical Protection		Class I according to IEC536
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.
Screw Size		Heads G11 to G25, G92 and G93: M3 x 5mm screw. Heads G41 and over (except G92 and G93): M3 x 18 mm screw
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.

Contacts Configuration

Diagram 1

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

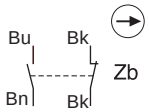
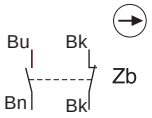


Diagram 2

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



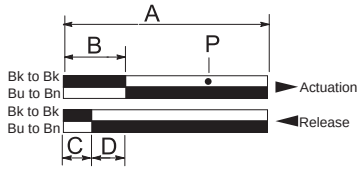
Note: Green/yellow wire is physical earth ground.

= Contact open

= Contact closed

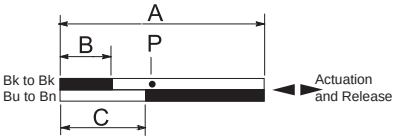
Bar Charts

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)

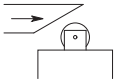
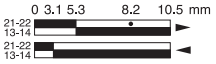


Diagram in millimeters/cam travel



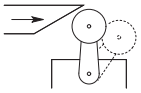
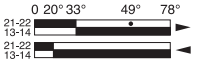


Diagram in degrees/lever rotation



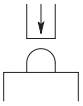
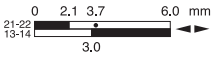


Diagram in millimeters/plunger travel



Part Series	Contact Configuration	Displacement Values mm(in) or degrees			
		A	B	C	P
AEM2G11, AEM2G16, AEM2G21	Z11	5.0 (0.20)	1.9 (0.07)	1.0 (0.04)	4.0 (0.16)
AEM2G11, AEM2G16, AEM2G21	X11	5.0 (0.20)	1.9 (0.07)	3.2 (0.13)	3.4 (0.13)
AEM2G12, AEM2G13, AEM2G14, AEM2G15, AEM2G22, AEM2G23, AEM2G24, AEM2G25	Z11	8.7 (0.34)	3.3 (0.13)	1.7 (0.07)	6.9 (0.27)
AEM2G12, AEM2G13, AEM2G14, AEM2G15, AEM2G22, AEM2G23, AEM2G24, AEM2G25	X11	8.7 (0.34)	3.3 (0.13)	5.5 ((0.21)	5.9 (0.23)
AEM2G41, AEM2G42, AEM2G43, AEM2G45, AEM2G51, AEM2G71, AEM2G72, AEM2G73, AEM2G74, AEM2G75	Z11	74°	26°	14°	58°
AEM2G41, AEM2G42, AEM2G43, AEM2G45, AEM2G51, AEM2G71, AEM2G72, AEM2G73, AEM2G74, AEM2G75	X11	74°	27°	45°	49°
AEM2G61	Z11	74°	26°	14°	Not positive-opening
AEM2G61	X11	74°	27°	45°	
AEM2G92	Z11		14°	5°	
AEM2G93	Z11		14°	5°	

Compact Limit Switches Cross-reference Table

Compact Limit Switches Cross Reference				
ADC	***Allen-Bradley***	***Honeywell***	***Eaton Cutler-Hammer***	***Omron***
AEM2G11Z11-3	802B-CSABXSXC3	914CE1-3	E47BCC05	D4C-1601
AEM2G12Z11-3	802B-CSADXSXC3	914CE2-3	E47BCC07	D4C-1602
AEM2G14Z11-3	802B-CSAD1XSXC3	914CE3-3	E47BCC11	D4C-1603
AEM2G16Z11-3	802B-CSABBSXC3	914CE18-3	E47BCC06	D4C-1631
AEM2G42Z11-3	802B-CSAAXSXC3	914CE16-3	E47BCC15	D4C-1620
AEM2G51Z11-3	NA	NA	E47BCC21	NA
AEM2G71Z11-3	NA	NA	E47BCC22	NA
AEM2G92Z11	802B-CSACXSXC3	NA	E47BCC20	D4C-1650
AEM2G93Z11	NA	914CE20-3	NA	NA