

Compact Limit Switches

AEM2G Series (Metal Plunger 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 25mm 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.

AEM2G Series Compact Limit Switches Selection Chart									
Part Number	Price	Drawing Link	Actuator Type	Max. Actuation Speed (m/s)	Min. Actuation Force (N) Torque (N·m)	Min. Positive Opening Force (N) Torque (N·m)	Contact Configuration	Connection Type	Photo
AEM2G11Z11-3	<---->	PDF	Metal plunger	0.5	15	30	Diagram 1	Cable Out (bottom)	A
AEM2G11X11-3	<---->	PDF					Diagram 2		
AEM2G1101Z11-3R	<---->	PDF					Diagram 1	Cable Out (right)	
AEM2G1101Z11M	<---->	PDF						5-pin M12 quick-disconnect (bottom)	
AEM2G1101Z11MR	<---->	PDF						5-pin M12 quick-disconnect (right)	
AEM2G16Z11-3	<---->	PDF	Metal plunger with dust cap	0.5	15	30	Diagram 1	Cable Out (bottom)	B
AEM2G16X11-3	<---->	PDF					Diagram 2		
AEM2G1601Z11-3R	<---->	PDF					Diagram 1	Cable Out (right)	
AEM2G1601Z11M	<---->	PDF						5-pin M12 quick-disconnect (bottom)	
AEM2G1601Z11MR	<---->	PDF						5-Pin M12 quick-disconnect (right)	
AEM2G18Z11-3	<---->	PDF	Metal plunger with bevel cut	0.5	15	30	Diagram 1	Cable Out (bottom)	C
AEM2G1801Z11-3R	<---->	PDF						Cable Out (right)	
AEM2G1801Z11M	Retired	PDF						5-pin M12 quick-disconnect (bottom)	
AEM2G1801Z11MR	<---->	PDF						5-pin M12 quick-disconnect (right)	
AEM2G21Z11-3	<---->	PDF						Metal plunger with fixing nuts	
AEM2G21X11-3	<---->	PDF	Diagram 2						
AEM2G2101Z11-3R	<---->	PDF	Diagram 1	Cable Out (right)					
AEM2G2101Z11M	<---->	PDF		5-pin M12 quick-disconnect (bottom)					
AEM2G2101Z11MR	<---->	PDF		5-pin M12 quick-disconnect (right)					



A



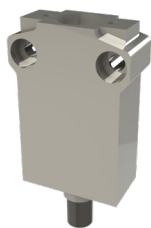
B



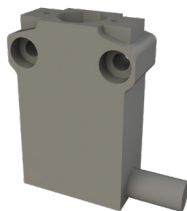
C



D



Cable Out (bottom)



Cable Out (right)



5-pin M12 quick-disconnect (bottom)



5-pin M12 quick-disconnect (right)

Compact Limit Switches

Compact Limit Switches Specifications		
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	2.8 A @ 24VDC; 0.55 A @ 125VDC; 0.27 A @ 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	25mΩ	
Recommended Minimum Operating Speed	With slow-action contacts: 500mm 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 N•m [0.8 Nm max]	
Approvals	UL file E191072, CE	

*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

Compact Limit Switches

Contacts Configuration

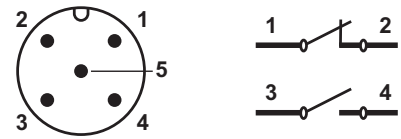
Limit switch types

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.

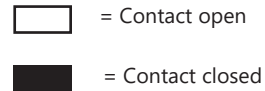
Slow-make/slow-break contacts: A contact element in which the contact motion is dependent on the actuator speed.

Contacts Configuration

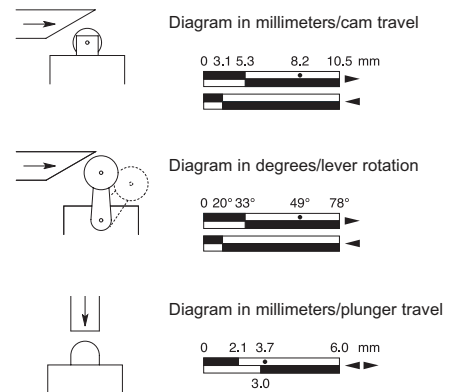
5-Pin M12 connector



Note: Green/yellow wire is physical earth ground.



Bar Chart Examples (cam angle is 30 degrees)

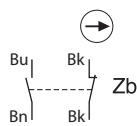


Note: Values represent travel of cam in direction of arrow.

Diagram 1

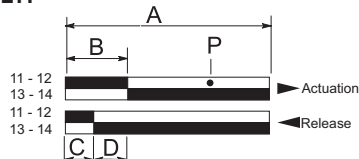
Z11 Snap-action contacts

1 N.O. and 1 N.C.



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

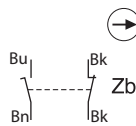
D = Differential travel (between actuation and release)

P = Point from which positive opening is assured during actuation

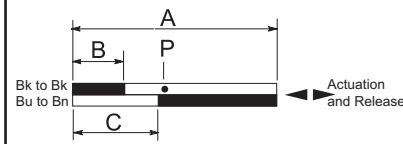
Diagram 2

X11 Slow-make/slow-break contacts

1 N.O. and 1 N.C.



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

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°	