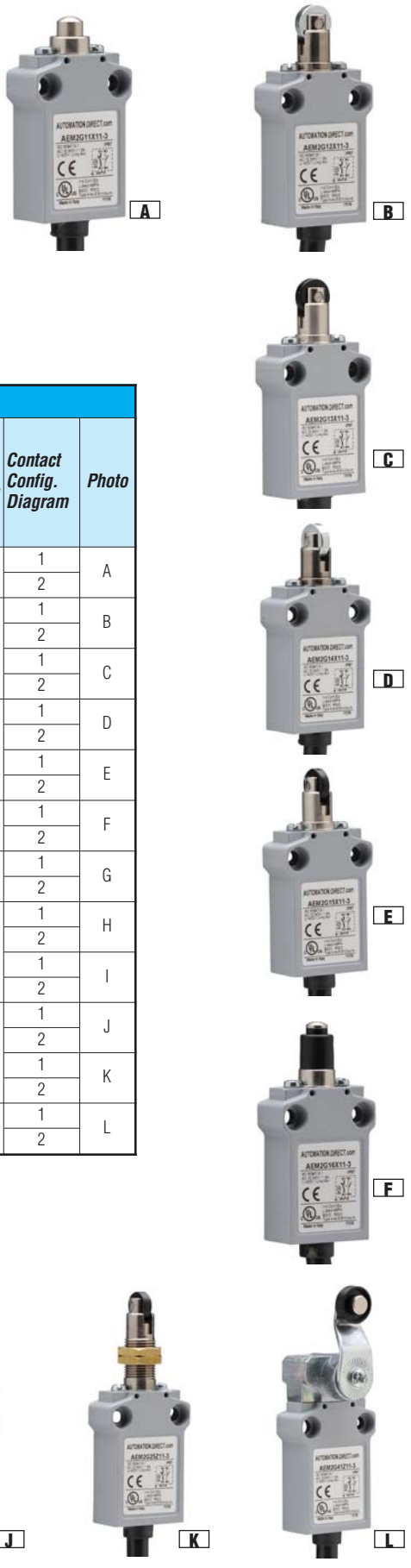


# Compact Limit Switches

## 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. ⊖



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	Figure 1	1	A
AEM2G11X11-3	<-->						2	
AEM2G12Z11-3	<-->	Metal plunger with metal roller actuator	0.1	10	30	Figure 2	1	B
AEM2G12X11-3	<-->						2	
AEM2G13Z11-3	<-->	Metal plunger with nylon roller actuator	0.1	10	30	Figure 2	1	C
AEM2G13X11-3	<-->						2	
AEM2G14Z11-3	<-->	Metal plunger with metal cross roller actuator	0.1	10	30	Figure 3	1	D
AEM2G14X11-3	<-->						2	
AEM2G15Z11-3	<-->	Metal plunger with nylon cross roller actuator	0.1	10	30	Figure 3	1	E
AEM2G15X11-3	<-->						2	
AEM2G16Z11-3	<-->	Metal plunger with dust cap	0.5	15	30	Figure 4	1	F
AEM2G16X11-3	<-->						2	
AEM2G21Z11-3	<-->	Metal plunger actuator with fixing nuts	0.1	10	30	Figure 5	1	G
AEM2G21X11-3	<-->						2	
AEM2G22Z11-3	<-->	Metal plunger with metal roller actuator with fixing nuts	0.1	10	30	Figure 6	1	H
AEM2G22X11-3	<-->						2	
AEM2G23Z11-3	<-->	Metal plunger with nylon roller actuator with fixing nuts	0.1	10	30	Figure 6	1	I
AEM2G23X11-3	<-->						2	
AEM2G24Z11-3	<-->	Metal plunger with metal cross roller actuator with fixing nuts	0.1	10	30	Figure 7	1	J
AEM2G24X11-3	<-->						2	
AEM2G25Z11-3	<-->	Metal plunger with nylon cross roller actuator with fixing nuts	0.1	10	30	Figure 7	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	



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- Photo Sensors
- Limit Switches**
- Encoders
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- Temperature Sensors
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# Compact Limit Switches

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				1	O			
AEM2G45X11-3	<--->					2				
AEM2G51Z11-3	<--->	Adjustable lever with 18 mm nylon roller actuator				1	P			
AEM2G51X11-3	<--->					2				
AEM2G61Z11-3	<--->	Lever with nylon-tipped stainless steel spring actuator				0.28	0.10	Figure 11	1*	Q
AEM2G61X11-3	<--->								2*	
AEM2G71Z11-3	<--->	Adjustable 3 mm stainless steel rod actuator						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	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



M



N



O



P



Q



R



S



T



U



V



W



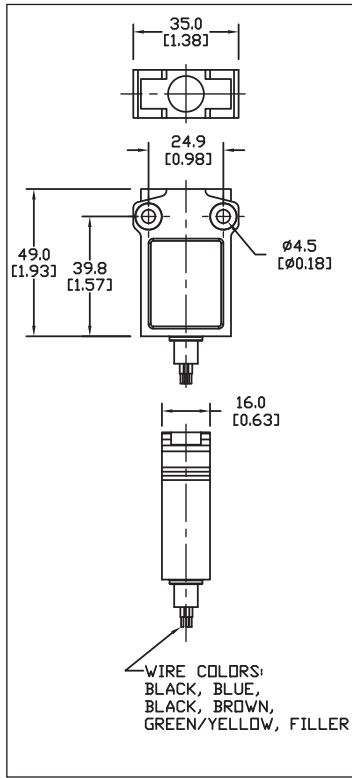
X

# Compact Limit Switches Dimensions

## Dimensions

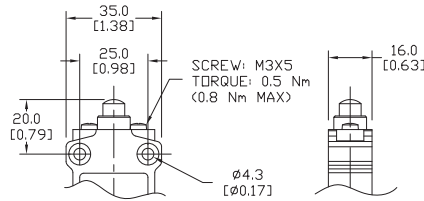
mm [inches]

### AEM2G Series Body



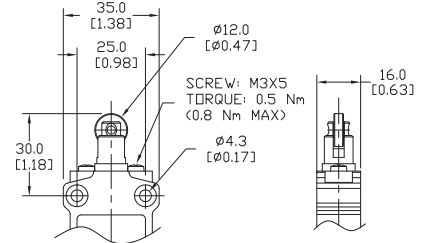
### AEM2G Series Heads Figures 1 thru 15

Figure 1



AEM2G11\*11-3

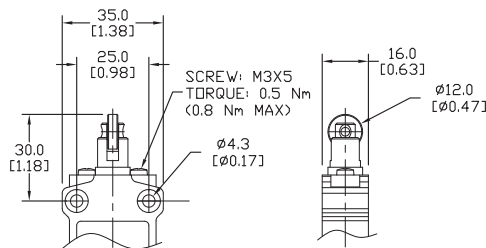
Figure 2



AEM2G12\*11-3

AEM2G13\*11-3

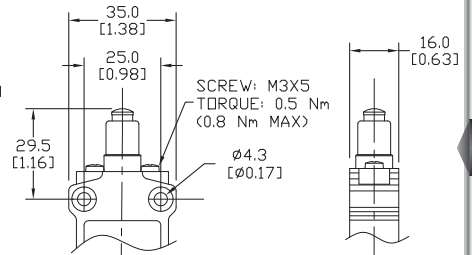
Figure 3



AEM2G14\*11-3

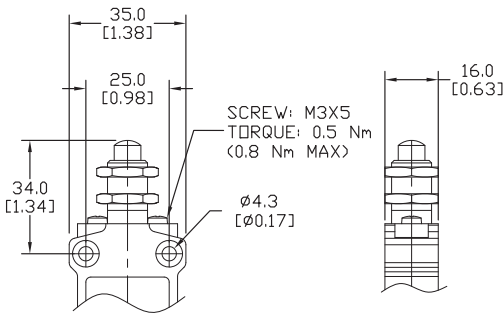
AEM2G15\*11-3

Figure 4



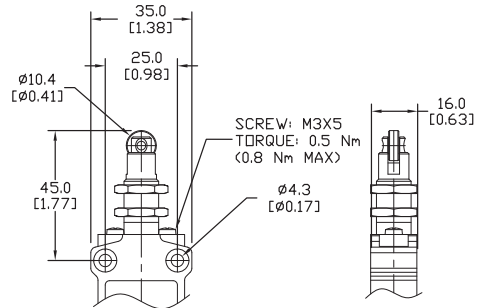
AEM2G16\*11-3

Figure 5



AEM2G21\*11-3

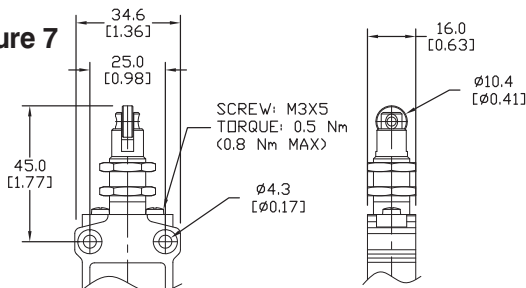
Figure 6



AEM2G22\*11-3

AEM2G23\*11-3

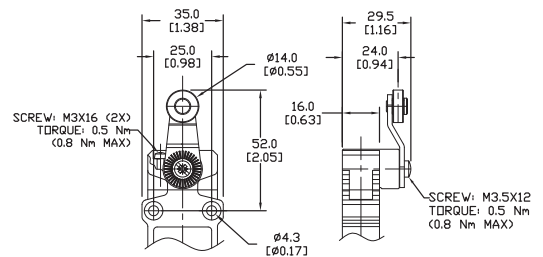
Figure 7



AEM2G24\*11-3

AEM2G25\*11-3

Figure 8

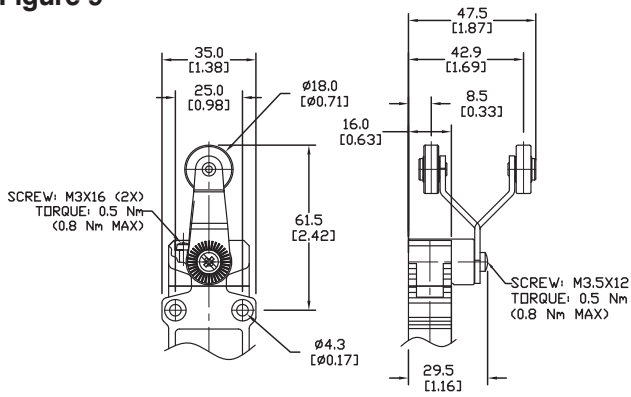


AEM2G41\*11-3 AEM2G42\*11-3

AEM2G43\*11-3

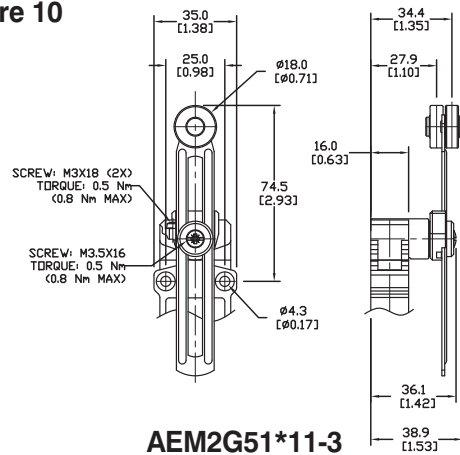
# Compact Limit Switches Dimensions, cont.

**Figure 9**



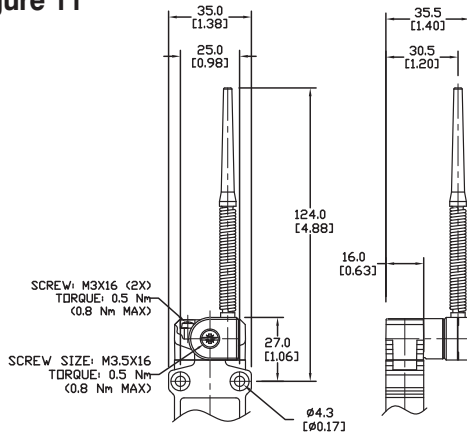
**AEM2G45\*11-3**

**Figure 10**



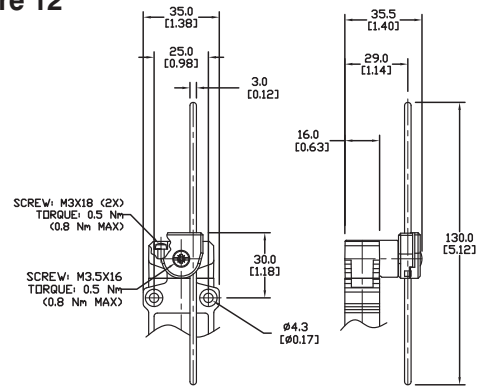
**AEM2G51\*11-3**

**Figure 11**



**AEM2G61\*11-3**

**Figure 12**

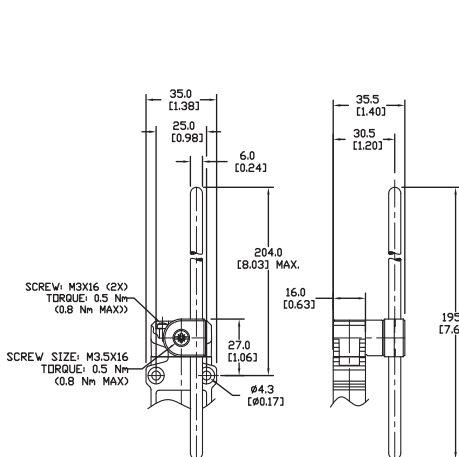


**AEM2G71\*11-3**

**AEM2G72\*11-3**

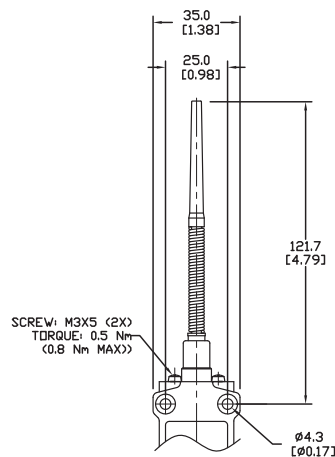
**AEM2G75\*11-3**

**Figure 13**



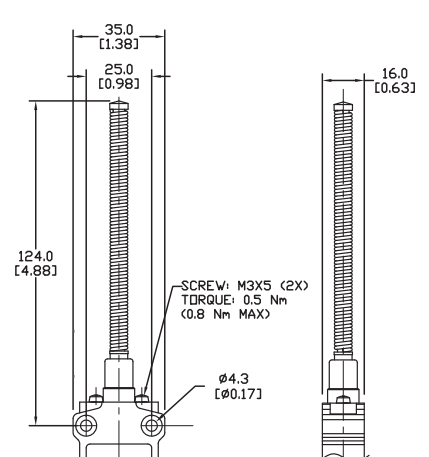
**AEM2G73\*11-3**  
**AEM2G74\*11-3**

**Figure 14**



**AEM2G92Z11-3**

**Figure 15**



**AEM2G93Z11-3**

# Compact Limit Switches

Compact Limit Switches Specifications		
Approvals		
UL file E191072, CE, RoHS		
Environmental		
<b>Degree of Protection</b>	IP67 according to IEC 529	
<b>Temperature Range</b>	Storage: -40° to 70°C (-40° to 158°F). Operating: -25° to 70°C (-13° to 158°F)	
Mechanical Ratings		
<b>Mechanical Life</b>	10 million operations	
<b>Enclosure Material</b>	ZAMAK (zinc alloy)	
Contact Blocks Rating		
<b>Positive Opening</b>	Yes, except G61, G92, G93	
<b>Electrical Ratings</b>	<b>AC15</b>	Make: 50A @ 24VAC; 30A @ 120VAC; 15A @ 240VAC Break: 5A @ 24VAC; 3A @ 130VAC; 1.5A @ 230VAC
	<b>DC13</b>	1.1A @ 24VDC; 0.22A @ 125VDC; 0.1A@250VDC
<b>Maximum Switching Frequency</b>	Contact blocks: all one cycle per second	
<b>Repeat Accuracy</b>	0.05 mm on the operating points at 1 million operations	
<b>Short-Circuit Protection</b>	6A @ <math>-500V</math>	
<b>Contact Resistance</b>	25 milli $\Omega$	
<b>Recommended Minimum Operating Speed</b>	With slow-action contacts: 500 mm per minute	
<b>Rated Insulation Voltage</b>	B300, R300 according to UL508; 400V (degree of pollution: 3) according to IEC 947-1	
<b>Cable Type</b>	3m PVC cable, 5 x 0.75mm <sup>2</sup> (18 AWG). Overall cable diameter: 8.20 mm (0.32 in.)	
<b>Wiring Terminal Markings</b>	According to CENELEC EN50013	
<b>Electrical Protection</b>	Class I according to IEC536	
Contact Blocks Performance		
<b>Operation Frequency</b>	3600 ops/h	
<b>Electrical Durability (according to IEC 947-5-1)</b>	Utilization categories AC-15 and DC-13; load factor of 0.5.	
<b>Screw Size</b>	Heads G11 to G25, G92 and G93: M3 x 5mm screw. Heads G41 and over (except G92 and G93): M3 x 18 mm screw	
<b>Torque</b>	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.

**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.

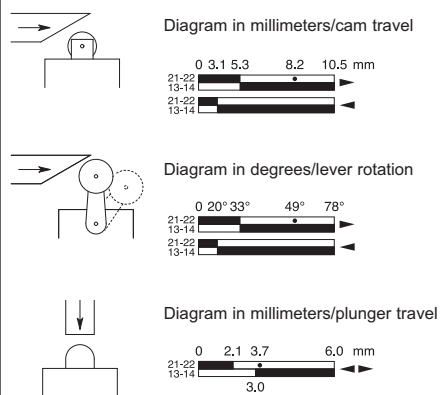
**X11**

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

**Note:** Green/yellow wire is physical earth ground.

= Contact open  
 = Contact closed

## Bar Chart Examples (cam angle is 30 degrees)



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



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Photo Sensors

**Limit Switches**

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Enclosures

Tools

Pneumatics

Appendix

Product Index

Part # Index

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