

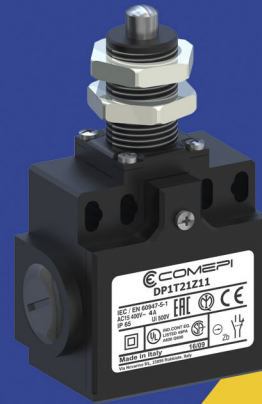
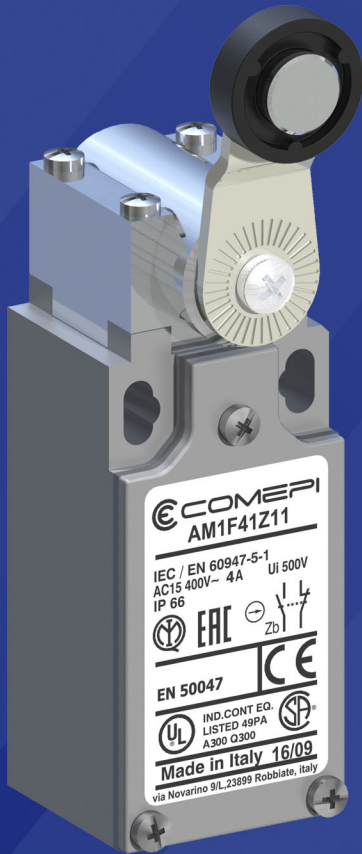


# ELECTRICAL COMPONENTS



## IEC Limit Switches

- 30, 35, 40, 50, 60mm widths
- Non-Metallic Body
- Metallic Body



# Comepi Limit Switches

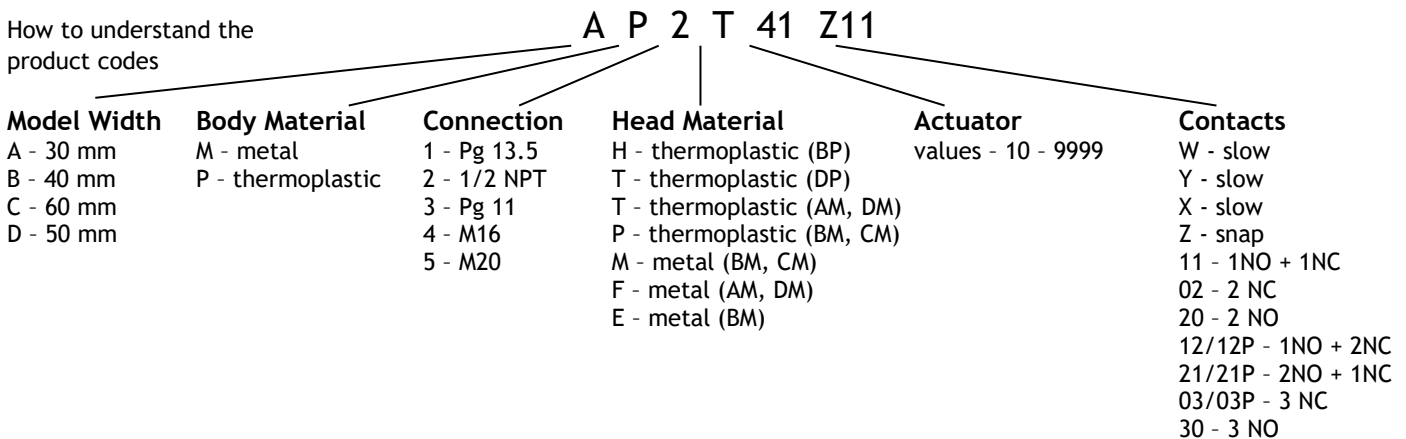
## Features and specifications

Approvals	CSA, cULus	
IP rating (IEC 60529 and EN 60529 OR IEC 536)	IP65 - 67	
Operating temperature	-25 to 70°C (low temperature version available -40 to 70°C)	
Protection against electrical shocks (according to IEC 61140 or 536)	metal - class I, thermoplastic class - II	
Rated insulation voltage $U_i$ According to IEC 60947-1 and EN 60947-1 According to UL 508 and CSA C22-2 n° 14A	500V (degree of pollution 3) (400V for contact types Z02, X12P, X21P, W03P) A 600, Q 600 (A 300, Q 300 for AM... & DM... series & contact types X12P, X21P, W03P)	
Conventional free air thermal current $I_{th}$ (according to IEC 60947-5-1 & EN 60947-5-1) @ <40 °C	10A	
Short-circuit protection, $U_e < 500V$ a.c. - gG (gl) type fuses	10A	
Rated operational current $I_e$ / AC-15 (according to IEC 60947-5-1)  $I_e$ / DC-13 (according to IEC 60947-5-1)	AM, AP, BM, BP, CM, DM, DP 24V - 50/60 Hz                      10A 120V - 50/60 Hz                    6A 400V - 50/60 Hz                    4A  24V DC                                    6A 125V DC                                 0.55A 250V DC                                 0.4A	EM 10A 6A 3A  2.8A 0.55A 0.27A
Switching frequency (cycles/hr)	3600	
Load factor	0.5	
Resistance between contacts (mΩ)	25	
Connecting terminals	M3.5 2 pozidriv screws with cable clamp (M3 for 3 poles contact types)	
Connecting capacity (1 or 2 x mm <sup>2</sup> )	0.75 ... 2.5 (0.34 ... 1.5 for 3 poles contacts type)	
Terminal marking	according to IEC 60947-5-1	
Mechanical durability (millions of operations)	depends on head/actuator - 5 - 30 million	

Information subject to change without notice

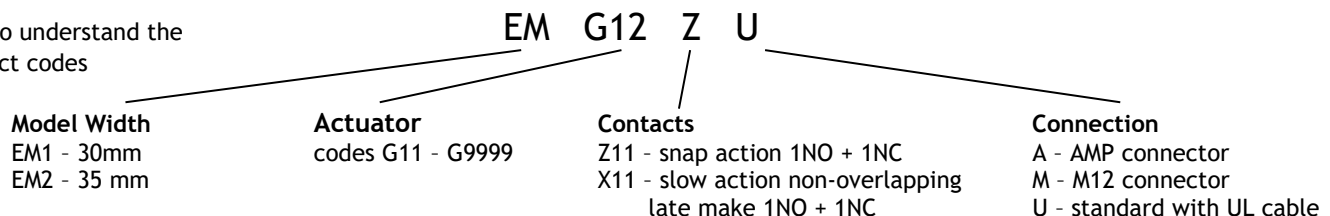
## Naming convention for Limit Switches

How to understand the product codes



## Naming convention for EM Pre-wired Limit Switches

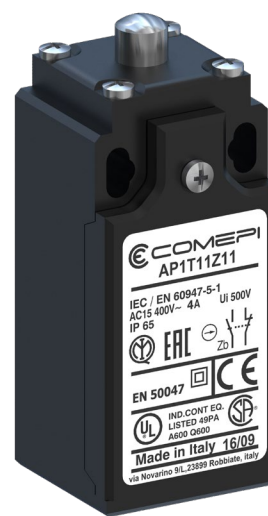
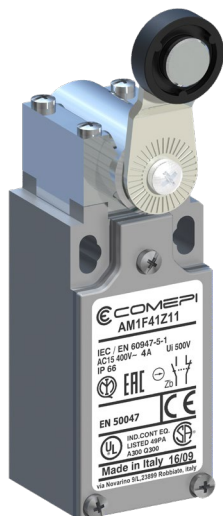
How to understand the product codes

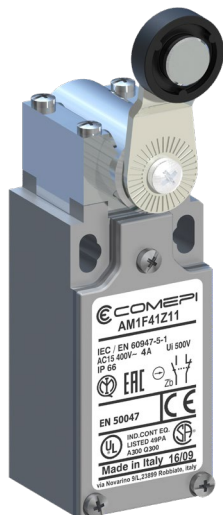
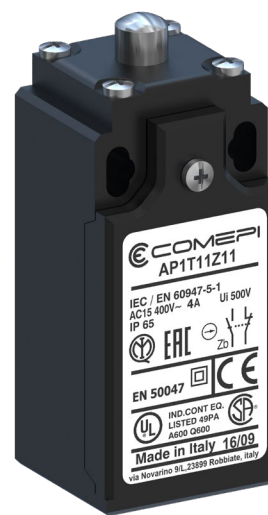


# Non-Metallic & Metallic Limit Switches

## AM

## AP



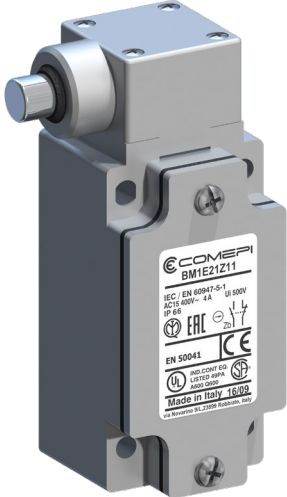

							
<b>Series</b>		AM Series - 30mm Metal Limit Switches			AP Series - 30mm Non-Metallic Limit Switches		
<b>Contacts</b>	<b>Code</b>	<b>Action</b>	<b>Contacts</b>	<b>Code</b>	<b>Action</b>	<b>Contacts</b>	
	Z11	snap	1NO + 1NC	Z11	snap	1NO + 1NC	
	X11	slow BBM	1NO + 1NC	X11	slow BBM	1NO + 1NC	
	Y11	slow MBB	1NO + 1NC	Y11	slow MBB	1NO + 1NC	
	W02	slow simultaneous	2NC	W02	slow simultaneous	2NC	
	W20	slow simultaneous	2NO	W20	slow simultaneous	2NO	
	Z02	snap	2NC	Z02	snap	2NC	
	X12P	slow BBM	1NO + 2NC	X12P	slow BBM	1NO + 2NC	
X21P	slow BBM	2NO + 1NC	X21P	slow BBM	2NO + 1NC		
<b>Certifications</b>		CSA, cULus			CSA, cULus		
<b>Material</b>	<b>Body</b>	Heavy duty aluminum alloy			UL-V0 thermoplastic fiberglass		
	<b>Head</b>	Metal (F) or UL-V0 thermoplastic fibreglass (T)			UL-V0 thermoplastic fibreglass (H)		
<b>Cable Entry or Type of Connection</b>		Pg11, Pg13.5, 1/2" NPT, M16 or M20 Pre-wired versions available - contact ITC			Pg11, Pg13.5, 1/2" NPT, M16 or M20 Pre-wired versions available - contact ITC		
<b>IP Rating</b>		IP66			IP65		
<b>Body (WxD)</b>	<b>mm</b>	30.3 x 32.5			30.3 x 30		
	<b>In</b>	1.19 x 1.28			1.19 x 1.18		
<b>Actuators Types</b>		39 options in actuators, see pages 7, 8 & 9			39 options in actuators, see pages 7, 8 & 9		

BBM - Break Before Make, MBB - Make Before Break, otherwise simultaneous  
Information subject to change without notice

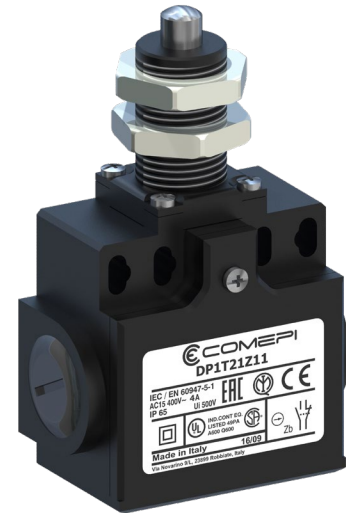
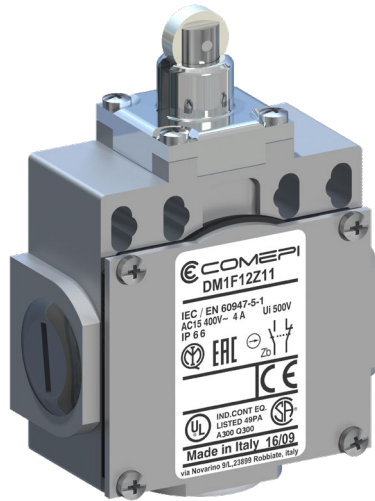


**BM**

**BP**

							
<b>Series</b>		BM Series - 40mm Metal Limit Switches			BP Series - 40mm Non-Metallic Limit Switches		
<b>Contacts</b>	<b>Code</b>	<b>Action</b>	<b>Contacts</b>	<b>Code</b>	<b>Action</b>	<b>Contacts</b>	
	Z11	snap	1NO + 1NC	Z11	snap	1NO + 1NC	
	X11	slow BBM	1NO + 1NC	X11	slow BBM	1NO + 1NC	
	Y11	slow MBB	1NO + 1NC	Y11	slow MBB	1NO + 1NC	
	W02	slow simultaneous	2NC	W02	slow simultaneous	2NC	
	W20	slow simultaneous	2NO	W20	slow simultaneous	2NO	
	Z02	snap	2NC	Z02	snap	2NC	
	X12	slow BBM	1NO + 2NC	X12	slow BBM	1NO + 2NC	
	X21	slow BBM	2NO + 1NC	X21	slow BBM	2NO + 1NC	
W03	slow simultaneous	3NC	W03	slow simultaneous	3NC		
W30	slow simultaneous	3NO	W30	slow simultaneous	3NO		
<b>Certifications</b>		CSA, cULus			CSA, cULus		
<b>Material</b>	<b>Body</b>	Heavy duty aluminum alloy			UL-V0 thermoplastic fibreglass		
	<b>Head</b>	Metal? (F) or UL-V0 thermoplastic fibreglass (T)			UL-V0 thermoplastic fibreglass (T)		
<b>Cable Entry or Type of Connection</b>		Pg13.5, 1/2" NPT or M20 Pre-wired versions available - contact ITC			Pg13.5, 1/2" NPT, or M20 Pre-wired versions available - contact ITC		
<b>IP Rating</b>		IP66			IP65		
<b>Body (WxD)</b>	<b>mm</b>	40 x 43			41 x 40.5		
	<b>in</b>	1.57 x 1.69			1.61 x 1.59		
<b>Actuators Types</b>		49 options in actuators, see pages 10 & 11			29 options in actuators, see pages 10 & 11		

BBM - Break Before Make, MBB - Make Before Break, otherwise simultaneous  
Information subject to change without notice

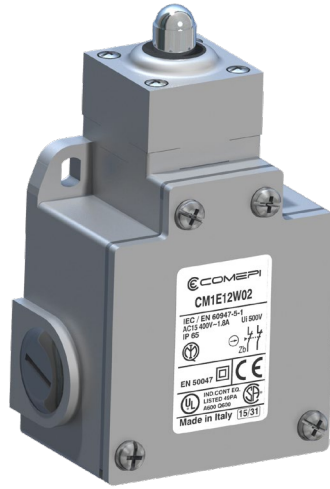
**DM**
**DP**


<b>Series</b>		DM Series - 50mm Metal Limit Switches			DP Series - 50mm Non-Metallic Limit Switches		
<b>Contacts</b>	<b>Code</b>	<b>Action</b>	<b>Contacts</b>	<b>Code</b>	<b>Action</b>	<b>Contacts</b>	
	Z11	snap	1NO + 1NC	Z11	snap	1NO + 1NC	
	X11	slow BBM	1NO + 1NC	X11	slow BBM	1NO + 1NC	
	Y11	slow MBB	1NO + 1NC	Y11	slow MBB	1NO + 1NC	
	W02	slow simultaneous	2NC	W02	slow simultaneous	2NC	
	W20	slow simultaneous	2NO	W20	slow simultaneous	2NO	
	Z02	snap	2NC	Z02	snap	2NC	
	X12P	slow BBM	1NO + 2NC	X12P	slow BBM	1NO + 2NC	
X21P	slow BBM	2NO + 1NC	X21P	slow BBM	2NO + 1NC		
W03P	slow simultaneous	3NC	W03P	slow simultaneous	3NC		
<b>Certifications</b>		CSA, cULus			CSA, cULus		
<b>Material</b>	<b>Body</b>	Heavy duty aluminum alloy			UL-V0 thermoplastic fibreglass		
	<b>Head</b>	Metal (F) or UL-V0 thermoplastic fibreglass (T)			UL-V0 thermoplastic fibreglass (T)		
<b>Cable Entry or Type of Connection</b>		Pg11, Pg13.5, 1/2" NPT, M16 or M20			Pg11, Pg13.5, 1/2" NPT, M16 or M20		
<b>IP Rating</b>		IP66			IP65		
<b>Body (WxD) mm</b>		59 x 36			57 x 33		
<b>Body (WxD) in</b>		2.32 x 1.42			2.24 x 1.3		
		36 options in actuators, see pages 7, 8 & 9			36 options in actuators, see pages 7, 8 & 9		

BBM - Break Before Make, MBB - Make Before Break, otherwise simultaneous  
Information subject to change without notice

## CM

## EM

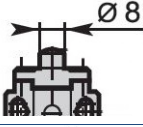
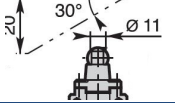
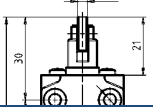
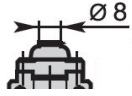
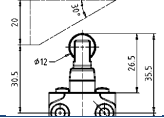
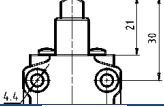
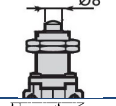
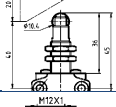
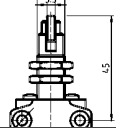

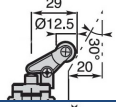
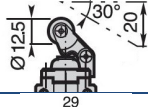


<b>Series</b>		CM Series - 60mm Metal Limit Switches			EM - Pre-wired Limit Switches		
<b>Contacts</b>	<b>Code</b>	<b>Action</b>	<b>Contacts</b>	<b>Code</b>	<b>Action</b>	<b>Contacts</b>	
	Z11 X11 Y11 W02 W20 Z02 X12P X21P W03P W30	snap slow BBM slow MBB slow simultaneous snap simultaneous slow BBM slow BBM slow BBM	1NO + 1NC 1NO + 1NC 1NO + 1NC 2NC 2NO 2NC 1NO + 2NC 2NO + 1NC 3NC 3NO	Z11 X11	snap slow	1NO + 1NC 1NO + 1NC	
<b>Certifications</b>		CSA, cULus			cULus		
<b>Material</b>	<b>Body</b>	Heavy duty aluminum alloy			UL-V0 thermoplastic fibreglass		
	<b>Head</b>	Metal (F) or UL-V0 thermoplastic fibreglass (T)			UL-V0 thermoplastic fibreglass		
<b>Cable Entry or Type of Connection</b>		Pg13.5, 1/2" NPT or M20			PVC UL cable - 5 x 0.75mm <sup>2</sup> ; length 1m, M12 connector or AMP connector		
<b>IP Rating</b>		IP66			IP67		
<b>Body (WxD) mm</b>		66 x 43			EM1 - 30 x 16, EM2 - 35 x 16		
<b>Body (WxD) in</b>		2.6 x 1.69			EM1 - 1.18 x 0.63, EM2 - 1.38 x 0.63		
<b>Actuators Types</b>		49 options in actuators, see pages 10 & 11			31 options in actuators, see pages 7, 8 & 9		

BBM - Break Before Make, MBB - Make Before Break, otherwise simultaneous  
Information subject to change without notice

## Actuators - for AM, AP, DM & DP Series

This table shows the various actuators that can be used with AM, AP, DM, DP and EM limit switches.

Actuator	Series	Series				
		AM	AP	DM	DP	EM
<b>Plain plunger</b> T10 - nylon plunger F11/G11/T11 - metal plunger		F11	T10 T11	F11	T10 T11	G11
<b>Roller plunger</b> F12/G12/T12 - metal roller G13/T13 - nylon roller		F12	T12 T13	F12	T12 T13	G13
<b>Cross roller plunger (90°)</b> G14 - metal roller G15 - nylon roller		-	-	-	-	G14 G15
<b>T14 - Plunger with dust protection cap</b>		T14	T14	T14	T14	-
<b>G17 - Metal roller plunger with dust protection cap</b>		-	-	-	-	G17
<b>G18 - Bevel plunger</b>		-	-	-	-	G18
<b>Plain plunger with fixing nuts</b> T21 - M18x1 fixing nut G21/T2101 - M12x1 fixing nuts		T21 T2101	T21 T2101	T21 T2101	T21 T2101	G21
<b>Roller plunger with fixing nuts</b> G22 - metal roller G23 - nylon roller		-	-	-	-	G22 G23
<b>Cross roller plunger with fixing nuts (90°)</b> G24 - metal roller G25 - nylon roller		-	-	-	-	G24 G25
<b>Roller lever on plunger - horizontal</b> G31/T30 - plastic plunger T31 - metal plunger		T30 T31	T30 T31	T30 T31	T30 T31	G30
<b>Roller lever on plunger - vertical</b> T32 - metal plunger T34 - plastic plunger		T32 T34	T32 T34	-	-	-
<b>T35 - Roller lever on plunger with dust protection cap</b>		X	T35	T35	T35	-
<b>T36 - Roller lever on plunger with dust protection cap</b>		X	T36	-	-	-



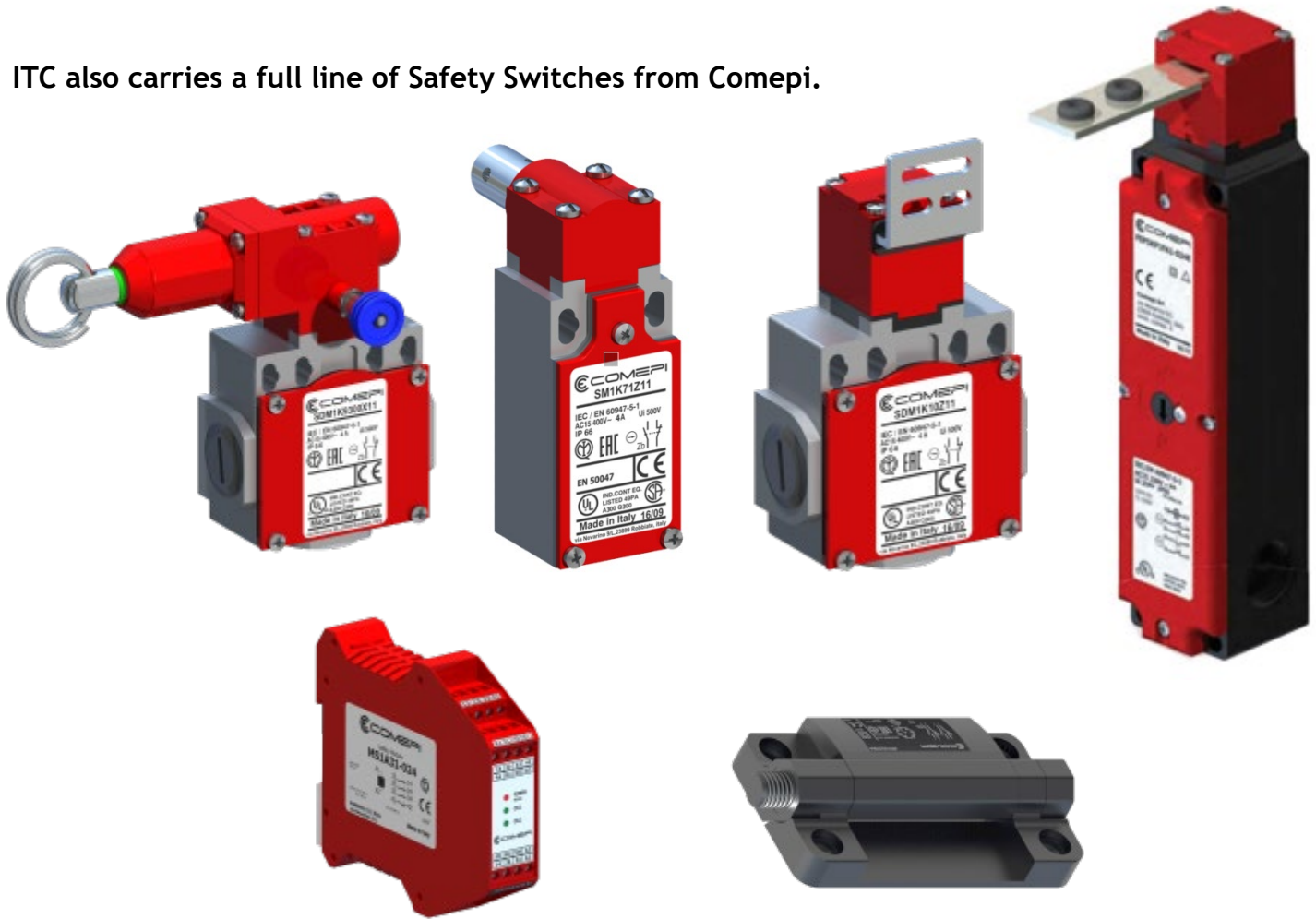
Actuator		Series				
		AM	AP	DM	DP	EM
<b>Adjustable roller lever on metal plunger</b> G38/T38 - no dust cap T39 - with dust cap		T38 T39	T38 T39	T38 T39	T38 T39	G38
<b>Roller lever</b> G41 - Ø 14mm nylon roller G42 - Ø 14mm metal roller G43 - Ø 14mm ball bearing roller G46/F42/T41 - Ø 18mm nylon roller G45/F43/T43 - Ø 18mm metal roller		T41 T43	T41 T43	F41 F43	T41 T43	G41 G42 G43 G45 G46
<b>Rubber roller lever</b> T42 - rubber roller lever F42 - rubber roller lever		F42	T42	F42	T42	-
<b>Reverse roller lever</b> F45/T45 - nylon roller F46/T46 - metal roller		F45 F46	T45 T46	F45 F46	T45 T46	-
<b>T48 - Ceramic rod lever</b>		X	T48	X	-	-
<b>Adjustable roller lever</b> G51/F51/T51 - nylon roller G53/F53/T53 - metal roller		F51 F53	T51 T53	F51 F53	T51 T53	G51 G53
<b>G5100/T5100 - Adjustable serrated rubber roller lever (step 2mm)</b>		-	T5100	-	-	G5100
<b>Adjustable rubber roller lever</b> F52/T52- adjustable rubber roller lever F55/T55 - adjustable rubber roller lever		F52 F55	T52 T55	F55	T52 T55	-
<b>Adjustable toothed rubber roller lever</b> T5200 - Adjustable lever T5500 - Adjustable serrated lever (step 2mm)		-	T5200 T5500	-	-	-
<b>G61/F61/T61 - nylon actuator with stainless steel spring</b>		F61	T61	F61	T61	G61
<b>T62 - Spring actuator</b>		-	T62	-	T62	-
<b>Ø 3mm rod lever</b> F71/G71/T71 - stainless steel rod F72/G72/T72 - fibreglass rod F75/G75/T75 - square steel rod 3x3mm		F71 F72 F75	T71 T72 T75	F71 F72 F75	T71 T72 T75	G71 G72 G73
<b>Ø 6mm rod lever</b> F73/T73 - nylon rod G73 - nylon rod (max 204) F74/T74 - fibreglass rod G74 - nylon rod (max 204)		F73 F74	T73	F73 F74	T73 T74	G73 G74



Actuator		Series				
		AM	AP	DM	DP	EM
T91 - Multidirectional spring actuator		T91	T91	T91	T91	-
Multidirectional spring actuator nylon T92 - length 115 Ø 6.2 G92 - length 122 Ø 7		T92	T92	T92	T92	G92
Multidirectional spring actuator T93 - length 117 G93 - length 124		T93	T93	T93	-	G93
T98 - Pull actuator with ring		T98	T98	T98	T98	-

Head Material: H / P=Thermoplastic; E= AL; M=ZAMAK  
Information subject to change without notice

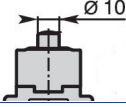
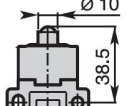
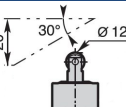
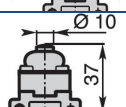
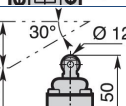
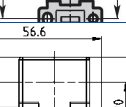
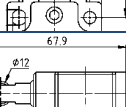
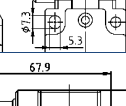
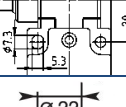

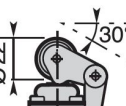
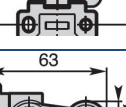
ITC also carries a full line of Safety Switches from Comepi.





## Actuators - for BM, BP & CM Series

This table shows the various actuators that can be used with BM, BP and CM limit switches.

Actuator	Series					
	BM	BP	CM			
<b>Plain plunger</b> E11 - Stainless steel H11/P11 - Metal				E11 P11	H11	-
<b>E12 - Stainless steel ball plunger</b> H12 - Metal ball plunger				E12	H12	E12
<b>E13/H13/M13 - Stainless steel Ø 12mm roller plunger</b>				E13 M13	H13	M13
<b>H14/M14 - Plain metal plunger with dust protection cap</b>				M14	H14	M14
<b>H19/M19 - Metal roller plunger with dust protection cap</b>				M19	H19	M19
<b>E21 - stainless steel lateral plain plunger</b>				E21	-	E21
<b>E22 - Stainless steel lateral plunger with Ø 12mm vertical roller</b>				E22	-	E22
<b>E23 - Stainless steel lateral plunger with Ø 12mm horizontal roller</b>				E23	-	E23
<b>One way lever - Ø 22mm roller</b> H31 - nylon roller H32 - stainless steel roller H33 - stainless steel roller with metal ball bearing				-	H31 H32 H33	E31 E32 E33
<b>One way lever with dust protection cap - Ø 22mm roller</b> H35 - nylon roller H36 - stainless steel roller H37 - stainless steel roller with metal ball bearing				-	H35 H36 H37	-
<b>Ø 22mm Roller lever</b> H41/M41 - nylon roller H42/M42 - stainless steel roller H43/M42 - stainless steel roller with metal ball bearing				M41 M42 M43	H41 H42 H43	M41 M42 M43
<b>Roller lever Ø 22mm</b> E41/H41 - nylon roller E42/H42 - Stainless steel roller E43/H43 - Stainless steel roller with metal ball bearing				E41 E42 E43	H41 H42 H43	E41 E42 E43



Actuator	Series		
	BM	BP	CM
E44/H44/M44 - Ø 50mm Rubber roller lever	E44	H44	E44 M44
Adjustable Ø 22mm roller lever E51/H51/M51 - nylon roller E52/H52/M52 - stainless steel roller E53/H53/M53 - stainless steel roller with metal ball bearing	E51 M51 E52 M52 E53 M53	H51 H52 H53	M51 M52 M53
E54/H54/M54 - Adjustable Ø 50mm rubber roller lever	E54 M54	H54	M54
E61/H61/M61 - Nylon actuator with stainless steel spring actuator	E61 M61	H61	E61 M61
E62/H62/M62 - Stainless steel spring actuator	E62 M62	H62	M62
Ø 3mm adjustable rod lever E71/H71/M71 - stainless steel rod E73/H73/M73 - fibreglass rod E75/H75/M75 - square metal rod 3x3	E71 M71 E73 M73 E75 M75	H71 H73 H75	E71 M71 E73 M73 E75 M75
Ø 6mm adjustable rod lever E72/H72/M72 - nylon rod E74/H74/M74 - fibreglass rod	E72 M72 E74 M74	H72 H74	E72 M72 E73 M74
E91/H91 - Multidirectional actuator with stainless steel spring	E91	H91	E91
E92/H92/P92 - Multidirectional spring actuator nylon	E92 P92	H92	E92
E93/H93 - Stainless steel spring multidirectional actuator	E93	H93	E93
E99 - Pull action with ring	E99	-	E99

Head Material: H / P=Thermoplastic; E= AL; M=ZAMAK  
Information subject to change without notice



# ELECTRICAL COMPONENTS

416.663.7223  
[www.itcproducts.com](http://www.itcproducts.com)  
 50 Mural St Unit 8  
 Richmond Hill, ON L4B 1E4



DIN Rail



DIN Rail Accessories



Hinged Enclosures



Thermal Management



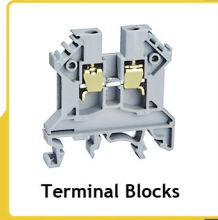
PANEL Lighting



Multipole Connectors



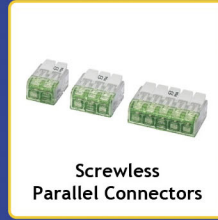
Compact IP68 Connectors



Terminal Blocks



Terminal Strips



Screwless Parallel Connectors



22.5mm Pushbuttons



LED Indicators



Control Stations



Limit Switches



Micro Limit Switches



Safety Switches



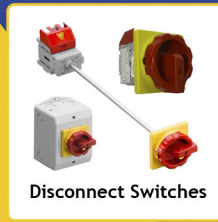
Foot Switches



Circuit Breakers



IEC Contactors



Disconnect Switches



Midget and CC Fuse Holders



Tower Lights



Power Continuity



Ferrules



Colour Coded Lugs



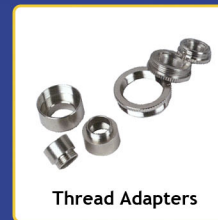
Crimp Terminals



Termination Kits



Cable Glands



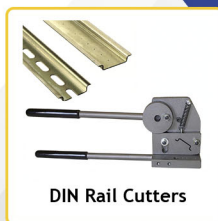
Thread Adapters



Cable Entry Systems



Wire Management



DIN Rail Cutters



Assembly Tables



Cutting & Stripping



Crimping Tools



Hole Cutting & Punching Tools

## SOME OF OUR MANUFACTURING PARTNERS

