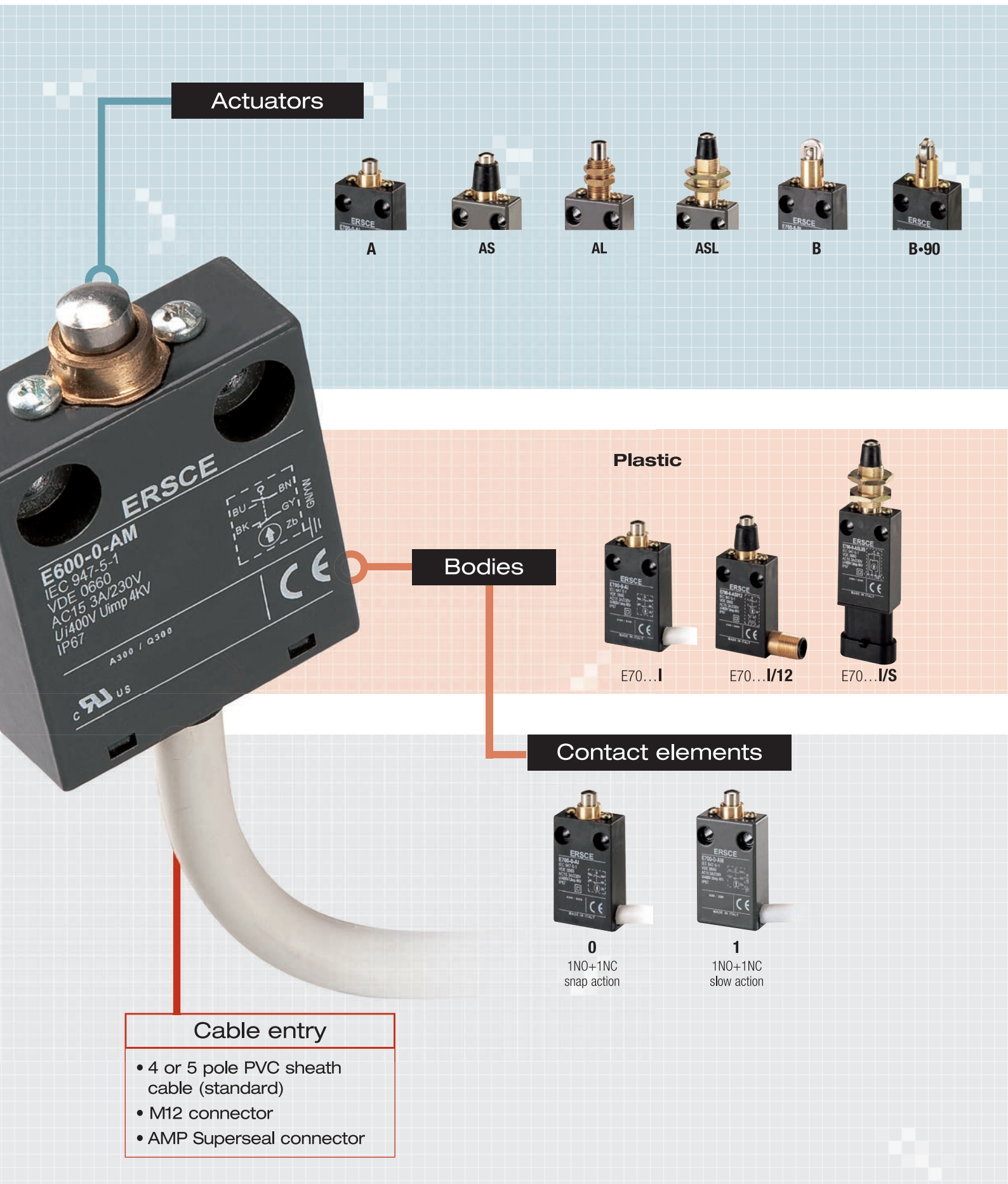




Pre wired  
limit switches

E700  
series

E600  
series





BL

BL-90

E

Metal



E70...M

E70...M/12

E60...M

E60...M/12

Part no. structure

**E70 0 0 A I**

Series

- E60** cable entry on the bottom
- E70** cable entry on the side

Contact element

- 0** PVC cable (CEI 20-20)
- 1** M12 connector
- 2** AMP Superseal connector

Contact element

- 0** 1NO+1NC snap action
- 1** 1NO+1NC slow action

Body material

- I** Thermoplastic
- M** Metal

Type of actuator

- A** Steel plunger
- B** Steel roller plunger
- ...

Note: Please verify the effective availability of a product before ordering.

## Technical data

				TYPE	E600 / E700	
Maximum operating frequency				operat./hour <sup>1</sup>	3600	
Insulation resistance	500 V DC			MΩ	100	
Dielectric strenght	50/60 Hz for 1'			V AC	2500 <sup>2</sup>	
Rated insulation voltage	Ui	IEC947-5-1		V AC	500	
Rated thermal current	Ithe	IEC947-5-1		A	10	
Rated operating current	Category AC15 A300	Ie	IEC947-5-1/EN60947-5-1	24V	A	6
				125V	A	5
				230 V	A	3
				400 V	A	1,8
Contact resistance	IEC255-7 cat.3		initial value	mΩ	25	
Short circuit protective devices	IEC269 (IEC947-5-1) fuse type gL or gG			A	6	
Rated conditionals short circuit current	IEC947-5-1			A	1000	
Pollution degree	IEC947-5-1			A	3	
Protection degree	EN 60529				IP67	
Protection against electric shock			plastic	class	II	
			metal	class	I	
Vibration resistance	IEC68-2-6			mm	0,35 ± 15% (10 ÷ 55 Hz ± 1 Hz)	
Shock resistance	IEC68-2-27		11ms	g	30	
Mechanical life				cycles	10.000.000	
Electric life	at 250V AC 6A with resistance load cosφ=1			cycles	500.000	
	at 250V AC 6A with inductive load cosφ=0,4			cycles	500.000	
Distance between contacts	Snap action type			mm	2x2	
	Low action type			mm	2x1,25	
Cable	Model / Section			mm <sup>2</sup>	V4 - 5F - 4 o 5x0,75 (19 AWG)	
	Colors				Brown-Blue (NO); Black-Grey (NC) Yellow/Green (GND)	
	Sheath color				Grey RAL 7035	
	Lenght			m	2	
	Traslation speed			m/min	60	
	Operating voltage			V	300/500	
Air ambient temperature	operational			°C	-35 ÷ +85 (without formation of ice)	
Relative umidity	operational				95% max	

<sup>1</sup> One operation cycle means two movements, one to close and one to open as required by EN 60947-5

<sup>2</sup> Between terminals of the same polarity; between terminals with different polarity; between live mechanical parts and ground; between live mechanical parts and non-current-carrying metal parts

## Certifications and Approvals



IEC EN 60947

E600

•

+

E700

•

+

- UL approval file E72861

• Approved

+ Conforms to requirements



**E600-E700 series**

- Cable with PVC sheath CEI 20-20 (other cables or connectors on request)
- Cable length 2m (other length on request)
- IP67 protection degree

**E600 series:**


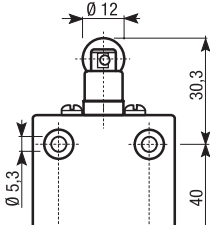
- Metal body
- Metal actuators
- Cable entry on the bottom of the switch

**E700 series:**

- Plastic or Metal body
- Metal actuators
- Cable entry on the side of the switch

**In conformity with standards:**

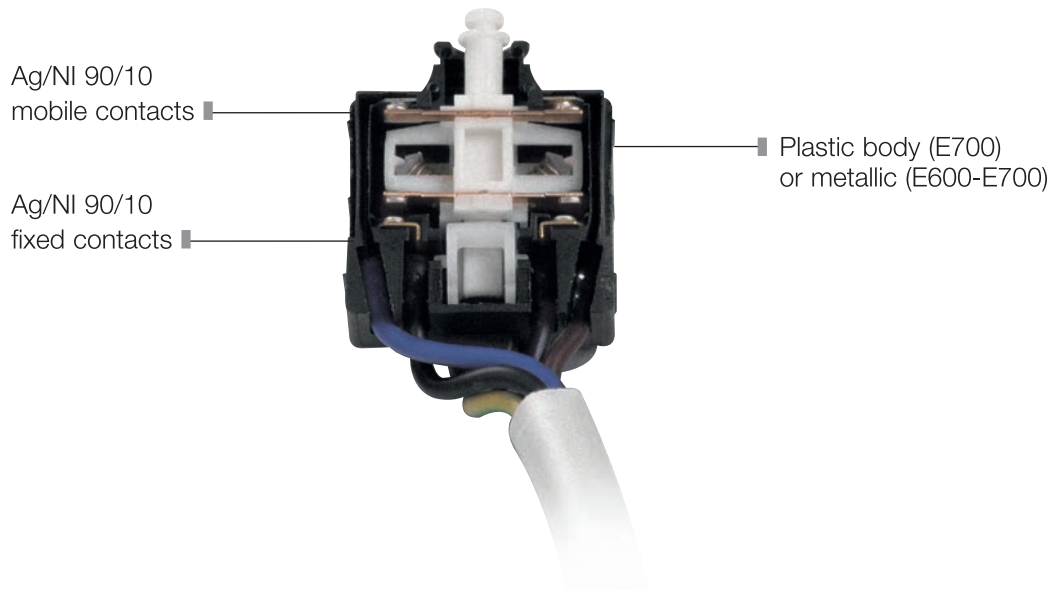
IEC EN 60947-5-1 • EN 60947-1 • UNI EN 1088 • EN ISO 12100-1  
EN ISO 12100-2 • IEC 529 • EN 60529 • VDE 0660-200 • VDE 0113

Series	Product	Fixing holes
E600		
E700		

## Contact elements

The E700 and E600 ranges have reduced dimension contact elements, with four terminal dual switching and galvanically separated mobile contacts.

The drives are by snap action '0' and slow action '1', 1NO + 1NC, positive opening.



### Overturning levers

All the levers can be fastened on switches on straight or reverse side, to obtain two different work plans of the lever.

Actuation  
head

## ■ Rectilinear actuation



**A**  
Steel Plunger



**AS**  
Steel Plunger  
with rubber gasket



**B**  
Steel roller plunger



**B•90**  
Steel roller plunger,  
turned 90°



**AL**  
Steel Plunger



**ASL**  
Steel Plunger  
with rubber gasket



**BL**  
Steel roller plunger



**BL•90**  
Steel roller plunger,  
turned 90°

## ■ Angular actuation

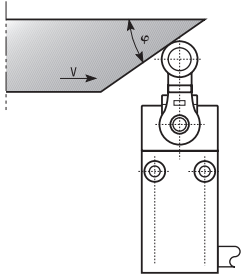


**E/EA**  
Side rotary lever  
with plastic or steel roller

## Operating features

### Roller lever

Actuators: E



Drive cam operating parameters

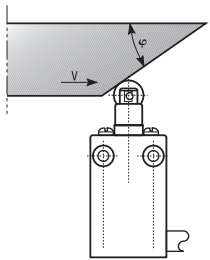
$\varphi$	V max (m/s)
30°	1,5
45°	1
60°	0,75
60°-90°	0,25

Drive force

Minimum command force	4 Ncm
Minimum forced opening force	8 Ncm

### Roller lever, side travel

Actuators: B-B/90°-BL-BL/90°



Drive cam operating parameters

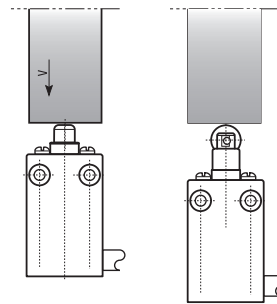
$\varphi$	V max (m/s)
30°	0,1
20°	0,3

Drive force

Minimum command force	8 N
Minimum forced opening force	18 N

### Plunger, Roller plunger, vertical travel

Actuators: A-AS-AL-B-B/90°-BL-BL/90°




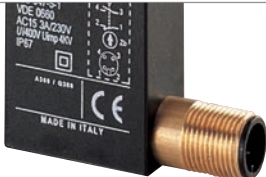




Drive cam operating parameters

V max (m/s)
0,5



## Connections

Series	Nr. poles	
Standard PVC cable (CEI 20-20)	4 poles	
	4 poles + GND	
PVC - UL/CSA cable	4 poles	
	4 poles + GND	
PUR - UL/CSA cable	4 poles	
	4 poles + GND	
M12 connector	4 poles	
	4 poles + GND	
AMP Superseal connector	4 poles	

Type	Diagram	Type	Diagram
Switches with 4 pole M12x1 male connectors	<p>4 poles</p> <p>5 poles</p>	Switches with 4 pole AMP superseal male connectors	
4 pole M12x1 female connectors	<p>4 poles</p> <p>5 poles</p>	4 pole AMP superseal female connectors	
Type	Connection distances	Type	Connection distances
With straight 12 Ø connector		With bent 12 Ø connector	
With cable		With AMP superseal connector	

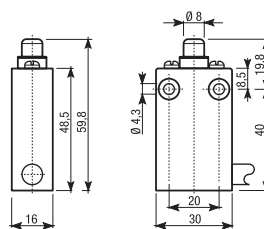


Steel plunger

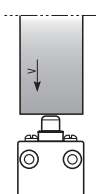
Contact element	
1NO+1NC snap action 	<b>0</b>
1NO+1NC slow action 	<b>1</b>
Weight	kg
Pack	pcs
Cable length	m

Plastic	Metal	Contact travel
<b>E7000AI</b>	<b>E7000AM</b>	
<b>E7001AI</b>	<b>E7001AM</b>	
0,288	0,327	
	1	
	2	

standard article



Drive cam operating parameters



V max (m/s) 0,5



Steel roller plunger

B



Steel roller plunger turned 90°

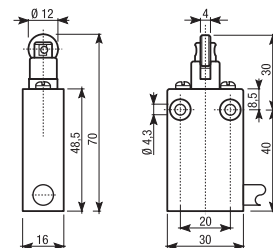
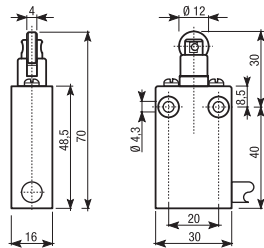
B•90

Contact element		
1NO+1NC snap action		<b>0</b>
1NO+1NC slow action		<b>1</b>
Weight	kg	
Pack	pcs	
Cable length	m	

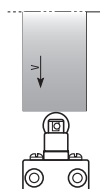
standard article

Plastic	Metal	Contact travel
<b>E7000BI</b>	<b>E7000BM</b>	
<b>E7001BI</b>	<b>E7001BM</b>	
0,296	0,331	
	1	
	2	

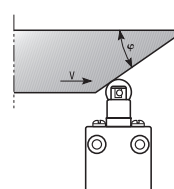
Plastic	Metal	Contact travel
<b>E7000BI90</b>	<b>E7000BM90</b>	
<b>E7001BI90</b>	<b>E7001BM90</b>	
0,296	0,331	
	1	
	2	



Drive cam operating parameters



V max (m/s) 0,5



$\varphi$	V max (m/s)
20°	0,3
30°	0,1

Min. force (N)	
for tripping	8
for positive opening	18



BL

Steel roller plunger, vertical actuation



BL•90

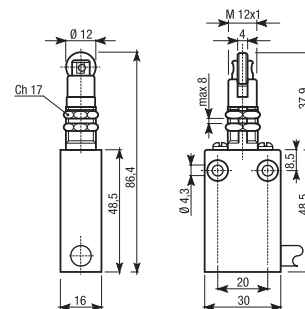
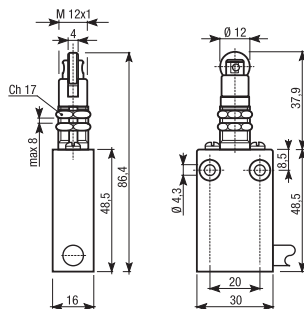
Steel roller plunger turned 90°

Contact element	
1NO+1NC snap action 	<b>0</b>
1NO+1NC slow action 	<b>1</b>
Weight	kg
Pack	pcs
Cable length	m

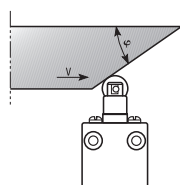
Plastic	Metal	Contact travel
<b>E7000BLI</b>	<b>E7000BLM</b>	
<b>E7001BLI</b>	<b>E7001BLM</b>	
0,306	0,348	
	1	
	2	

Plastic	Metal	Contact travel
<b>E7000BLI90</b>	<b>E7000BLM90</b>	
<b>E7001BLI90</b>	<b>E7001BLM90</b>	
0,306	0,348	
	1	
	2	

standard article

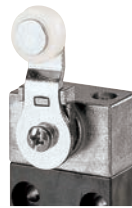


Drive cam operating parameters



$\varphi$	V max (m/s)
20°	0,3
30°	0,1

Min. force (N)	
for tripping	8
for positive opening	18

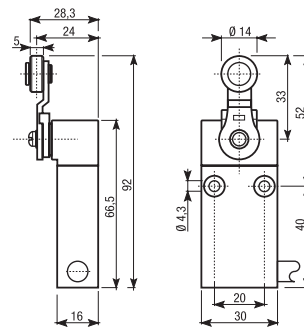


Thermoplastic roller lever

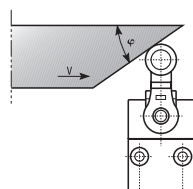
Contact element	
1NO+1NC snap action 	<b>0</b>
1NO+1NC slow action 	<b>1</b>
Weight	kg
Pack	pcs
Cable length	m

Plastic	Metal	Contact travel
<b>E7000EI</b>	<b>E7000EM</b>	
<b>E7001EI</b>	<b>E7001EM</b>	
0,342	0,381	
	1	
	2	

standard article



Drive cam operating parameters



$\varphi$	V max (m/s)
30°	1,5
45°	1
60°	0,75
60-90°	0,25

Min. force (cNm)	
for tripping	4
for positive opening	8



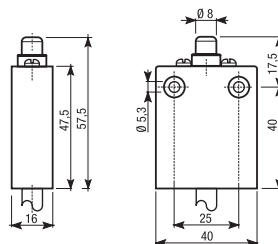


Steel plunger

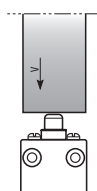
Contact element	
1NO+1NC snap action 	<b>0</b>
1NO+1NC slow action 	<b>1</b>
Weight	kg
Pack	pcs
Cable length	m

Metal	Contact travel
E6000AM	
E6001AM	
0,350	
1	
2	

standard article



Drive cam operating parameters



V max (m/s) 0,5

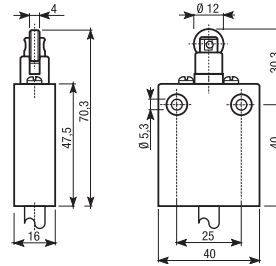


Steel roller plunger

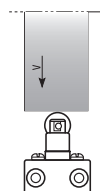
Contact element	
1NO+1NC snap action 	<b>0</b>
1NO+1NC slow action 	<b>1</b>
Weight	kg
Pack	pcs
Cable length	m

Metal	Contact travel
E6000BM	
E6001BM	
0,361	
1	
2	

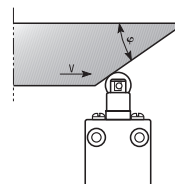
standard article



Drive cam operating parameters



$V_{max}$  (m/s) 0,5



$\varphi$	$V_{max}$ (m/s)
20°	0,3
30°	0,1

Min. force (N)	
for tripping	8
for positive opening	18

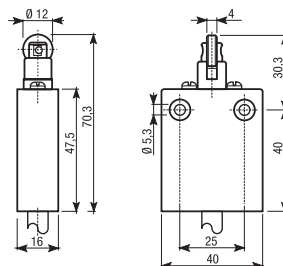


Steel roller plunger turned 90°

Contact element	
1NO+1NC snap action 	<b>0</b>
1NO+1NC slow action 	<b>1</b>
Weight	kg
Pack	pcs
Cable length	m

Metal	Contact travel
<b>E6000BM90</b>	
<b>E6001BM90</b>	
0,361	
1	
2	

standard article



Drive cam operating parameters													
	<table border="0"> <tr> <td>V max (m/s)</td> <td>0,5</td> </tr> </table>	V max (m/s)	0,5										
V max (m/s)	0,5												
	<table border="0"> <tr> <td><math>\varphi</math></td> <td>V max (m/s)</td> </tr> <tr> <td>20°</td> <td>0,3</td> </tr> <tr> <td>30°</td> <td>0,1</td> </tr> <tr> <td>Min. force (N)</td> <td></td> </tr> <tr> <td>for tripping</td> <td>8</td> </tr> <tr> <td>for positive opening</td> <td>18</td> </tr> </table>	$\varphi$	V max (m/s)	20°	0,3	30°	0,1	Min. force (N)		for tripping	8	for positive opening	18
$\varphi$	V max (m/s)												
20°	0,3												
30°	0,1												
Min. force (N)													
for tripping	8												
for positive opening	18												

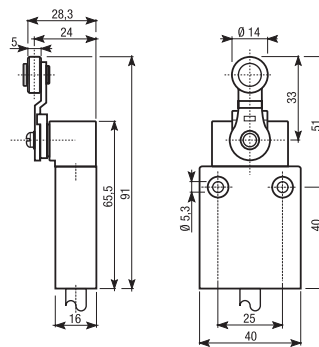


Thermoplastic roller lever

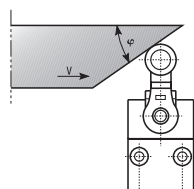
Contact element	
1NO+1NC snap action 	<b>0</b>
1NO+1NC slow action 	<b>1</b>
Weight	kg
Pack	pcs
Cable length	m

Metal	Contact travel
E6000EM	
E6001EM	
0,408	
1	
2	

standard article



Drive cam operating parameters



$\varphi$	V max (m/s)	Min. force (cNm)
30°	1,5	for tripping 4
45°	1	for positive opening 8
60°	0,75	
60-90°	0,25	