

Distinctive features and specifications



- Suited for integrated designs
- ☐ Large but lightweight
- Pad printed or laser etched symbols
- ☐ Full actuator or symbol illumination, adaptable to design requirements



	Pad printing	Laser
Non-illuminated		START
Illuminated		START

#### **ELECTRICAL SPECIFICATIONS**

- Max. current/voltage rating with resistive load: 200mA 12VDC
- Initial contact resistance :  $50 \text{ m}\Omega$  max.
- Insulation resistance : 1  $G\Omega$  min. at 500VDC
- Dielectric strength: 1.000 Vrms 50 Hz min.
- Electrical life at full load: 300.000 cycles

#### **GENERAL SPECIFICATIONS**

- Panel thickness: 1(.039) to 18 mm (.708) max.
- Total travel : 2,8 mm ± 0,5 mm
- Typical operating force: 8N ± 2N
- Mechanical life: 1 million cycles
- Torque : 3 Nm max. applied to nut
- Operating temperature : -40°C to +75°C

### **MATERIALS**

- Case: stanyl PA46
- Actuator : PA12Bushing/bezel : PA66
- Contacts: silver, gold plated (code 4)
- Multi-wire lead AWG22
- Terminal seal : epoxy or termelt overmolding

**Dimensions**: first dimensions are in mm while inches are shown as bracketted numbers.

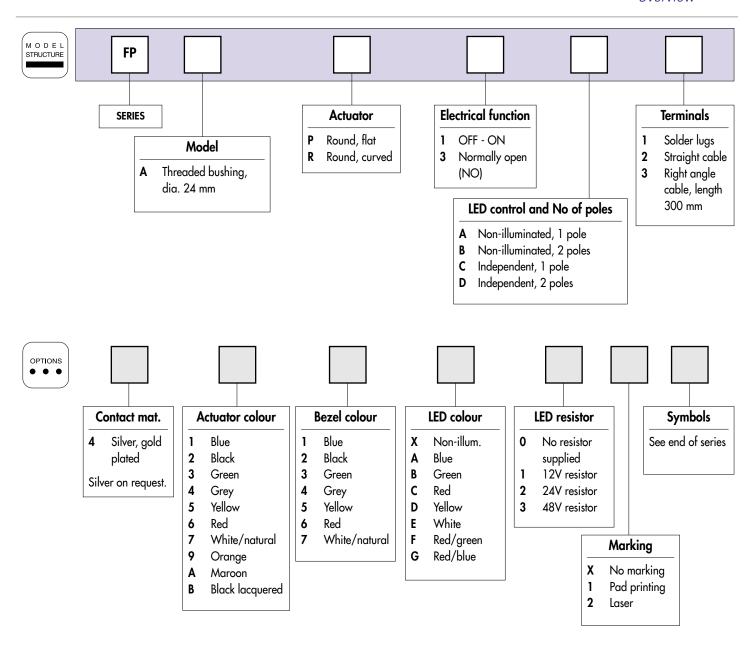
**Tolerance**: The general tolerance for dimensions in this brochure is  $\pm 0.3$  (.012).

Dimensions, specifications and data shown in this brochure are subject to change without notice.

2 **APEM** www.apem.com



**Overview** 



#### **ABOUT THIS SERIES**

On the following pages, you will find successively: model structure of switches and options in the same order as in above chart

Dimensions: first dimensions are in mm while inches are shown as bracketted numbers.



**NOTICE**: please note that not all combinations of above numbers are available. Refer to the following pages for further information.



Mounting accessories: Standard hardware supplied: 1 hex nut and 1 O-Ring



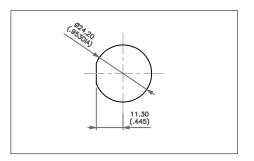
Packaging unit: solder lug versions: 20 pieces - cable versions: 1 piece

# FP series





Mounting by Ø 24 mm threaded bushing



- Three terminal types
- Curved or flat actuator

To order a product, replace • with one of the codes selected under "LED control and number of poles" on next page, then add he desired options.





### Solder lug terminals



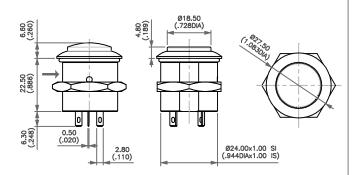
LATCHING Curved actuator FPAR1•1 Flat actuator

FPAP1•1

FPAP3•1

MOMENTARY (NO) Curved actuator FPAR3•1 Flat actuator

OFF ON OFF ON



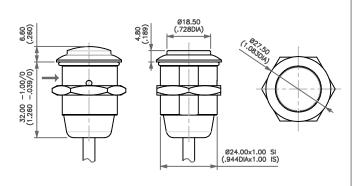
### Straight cable terminals



LATCHING Curved actuator FPAR1•2 Flat actuator FPAP1•2

MOMENTARY (NO) Curved actuator FPAR3•2 Flat actuator FPAP3•2

OFF ON OFF ON



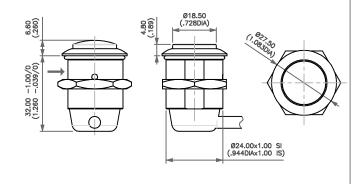
### Right angle cable terminals



LATCHING Curved actuator FPAR1•3 Flat actuator

MOMENTARY (NO) Curved actuator FPAR3•3 Flat actuator FPAP3•3

**OFF** ON OFF ON







**Options** 

### LED CONTROL AND NUMBER OF POLES

Complete the model numbers on previous pages with one of the following codes.

	Function 1 (latching)	Function 3 (momentary)
Non-illuminated one pole	r <sup>©</sup> °1	ro o1
A		
Non-illuminated two poles	LO 01 LO 01	
В		

	Function 1 (latching)	Function 3 (momentary)
Independent one pole C	[0.4.0]	Lo 0.1
Independent two poles		

### **CONTACT MATERIALS**



Silver, gold plated

Silver: on request.

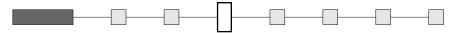
#### **ACTUATOR COLOUR**



1 : blue - 2 : black - 3 : green - 4 : grey - 5 : yellow - 6 : red - 7 : white/natural

9: orange - A: maroon - B: black, lacquered

### **BEZEL COLOUR**



1 : blue - 2 : black - 3 : green - 4 : grey - 5 : yellow6 : red - 7 : white/natural - 8 : bright chrome

### **LED COLOUR**



 ${\bf X}$  : non-illuminated

A: blue - B: green - C: red - D: yellow - E: white - F: red/green - G: red/blue

# FP series



## Fully illuminated pushbutton switches - momentary or latching

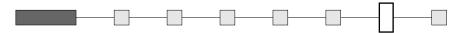
**Options** 

### **LED RESISTOR**



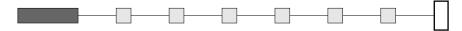
- No resistor supplied
- 12V resistor 24V resistor
- 2
- 3 48V resistor

#### **MARKING**



- No marking
- Pad printing
- 2 Laser

### **SYMBOLS**



XXNo symbol

### Available symbols

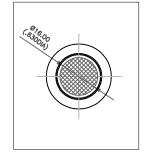
See following pages.

### Marking colour

White marking for illuminated actuators (laser etching) and non-illuminated black actuators (pad printing). Black marking for non-illuminated colour actuators (pad printing). Other: on request.

### Marking area

The symbol will be included in the hatched area.





Symbols

Most symbols meet the ISO 7000 standard "graphical symbols for use on equipments" (code given in bracket in the description). Contact us for symbols not featured in the following tables.

### Legend scale:

Depending on space available on the product (see "Symbols" section).

CODE	SYMBOL	DESCRIPTION
xx	None	-
01	ON	-
02	OFF	-
03	0	-
04	_	-
05	Ξ	-
06	STOP	-
07	Α	Stop
08	М	Motion
09	4	Up motion
10	<b>&gt;</b>	Down motion
11	業	Hot
12	$\overline{\times}$	Cold
13		Hazard warning (0085)
14	氚	Traveller lighting
15	Ķ	Driver lighting (1421

CODE	SYMBOL	DESCRIPTION
16		Revolving light
17		Rear ventilator
18	<u> </u>	Heating (0637)
19	$\Box$	Door opening
20	*	Windshield demister/defroster (0635)
21	P	Windshield wiper (0086)
22	$\Leftrightarrow$	Windshield washer (0088)
23	<b>%</b>	Ventilator fan (0089)
24		Side mirror defroster
25	(**)	Restarting pump
26	却	Front fog lights (0633)
27	<b>()</b> ‡	Rear fog lights (0634)
28	<b>—</b>	Propulsion system trim
29	洲	Beacon (1141)
30	ţ	Anchor
31		Electric motor (0011)

CODE	SYMBOL	DESCRIPTION
32	40	Emergency first aid vehicle (2565)
33	<b>₽</b>	Load tipping (1557)
34		Loading light (2457)
35	<b>₽</b>	Tractor, rear-ward (1667)
36	<b>←</b> ∑>	Combine, direction of movement (1678)
37	<b>*</b>	Use no forks (2406)
38	$\Diamond$	Transmission (1166)
39	六	Working spot light (1145)
40	Ę,	Engine (0640)
41	Þ	Horn (0244)
42		Lock (1656)
43	TAXI	Taxi sign light (2551)
44	Pin	Working light (1204)
45	<i>QM</i>	Working light symmetric (1204)
46		-
47	ASM	-



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CODE	SYMBOL	DESCRIPTION
48	H	All wheel drive
49		Differential lock (1662)
50	TOP	-
51	1000	-
52	540E	-
53	N	-
54	$\Box$	Rear window wiper (0097)
55		Rear window washer (0099)
56	<b>↓</b> \$	Lower load (2223)
57	<u>5</u> 0 °	Cab lock (1560)
58	<del>%</del>	Extraction
59	<b>%</b> ≡	Pumping in
60	<b>P</b>	Rear PTO (1 <i>572</i> )
61	<b>₽</b>	Front PTO
62	7	Rockshaft down
63		Rockshaft up

CODE	SYMBOL	DESCRIPTION
64	_	Indicator
65		Brake release
66	L	Baggage room left door
67	R	Baggage room right door
68		Power blinds
69	idle/diag	Engine idle control
70	CRUISE RES/SET	Cruise res/set
71	<b>?</b>	Driver windows up/down
72	2	Middle door opening
73	1	Front door opening
74	ρ. 	Lighting in baggage room
75	CRUISE ON/OFF	Cruise on/off
76	TV	TV
77	ьФ;	Pump
78	WC	Toilet
79	₩C	Toilet decontamination

CODE	SYMBOL	DESCRIPTION
80	(111)	Front windshield heating
81	AUS	Aus
82	<b>₩</b>	Radiator fan
83		Remove retarder
84	€ <u>7</u>	Restricted speed
85	90	Preheater
86	(ABS)	ABS detection
87	(ECAS)	ECAS detection
88	×	Engine stop
89	CRUISE RES/CAN	Cruise res/cancel
90	<b></b>	ECAS reset
91	<b></b>	Driver windows heating
92	CRUISE SET+/SET-	Cruise set
93	(1°)	Air bag up/down
94	路田	Read lighting
95	-\̈́\-	Lighting main switch



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### Legend scale:

Depending on space available on the product (see "Symbols" section).

CODE	SYMBOL	DESCRIPTION
96	<u></u>	Heating using water
97	<b>≣</b> D	Low beam
98	<del>-</del> 00=	Position lights
99	(+)	Diesel acceleration
Al		Manual mode
A2		Clockwise cabin rotation
А3		Anticlockwise cabin rotation
<b>A</b> 4	r	-
<b>A</b> 5	t 🚹 J	-
<b>A</b> 6	<b>(P)</b>	Parking brake
<b>A7</b>		-
<b>A8</b>		-
А9	(4 <u>{</u>	-
AA	<u>-</u> <u></u>	-
АВ	<u>-</u> <u></u>	-
AC	<b>-</b>	-

CODE	SYMBOL	DESCRIPTION
AD	<u></u>	-
AE	<u>_</u>	-
AF	<b>%</b> 2	-
AG	ĒĒ	Battery charging condition (0247)
АН	<b>4</b>	Turn signals (0084)
AJ	<b>≣</b> O	High beam (0082)
AK	¥	Differential lock, bogie (2600)
AL	$\odot$	Brushing with a rotating brush (0070)
АМ	Ť Ľ	Differential lock, transfer case 4x4 (2475)
AN	₹	Loader bucket, float (1441)
АР	Þ	Loader bucket (1437)
AQ		Rear window washer & wiper (0098)
AR		Header Header drive (1579)
AS	<u>T</u>	Excavator/backhoe boom side shift (2091)
AT		Chemical water treatment (1851)
AU	[fi	Grapple skidder, single funct° boom (1762)

CODE	SYMBOL	DESCRIPTION
AV	Ī	-
AW	ĬĠÎ	-
AY	<b>©</b>	-
AZ		-
В1	HIGH	-
B2	LOW	-
В3	$\bigcap_{i=1}^{2}$	-