

# FNR series

Sealed rocker switches



## DISTINCTIVE FEATURES

- Ideal for front / neutral / reverse selection
- Easy to install
- Excellent front panel sealing
- Backlit logos



## ENVIRONMENTAL SPECIFICATIONS

- Operating temperature : -40 °C to +85 °C (-40 °F to +185 °F)
- Panel sealing; IP69K according to DIN 40050-9



## ELECTRICAL SPECIFICATIONS

- Maximum voltage rating with resistive load: 24 VDC
- Current rating with resistive load: 0.03 to 1 A
- Initial contact resistance: <100 mohms
- Insulation resistance: >10 Gohms at 500 VDC
- Dielectric strength: 1000 Vrms 50 Hz min.
- Electrical life: 1.000.000 cycles at 100 mA  
100.000 cycles at 1 A

### LED COMPONENT SPECIFICATIONS

LED color	Forward current	Typ. forward voltage	Max. forward voltage
Blue	20 mA	3.3 V	4 V
Green	20 mA	2.1 V	2.5 V
Red	20 mA	1.9 V	2.5 V
Yellow	20 mA	2 V	2.5 V
White	20 mA	3.3 V	4 V
Red/green	20 mA	Red: 1.9 V / green: 2.1 V	2.5 V

A resistor must be series-connected by the user.

Resistor value =  $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

LED forward current

The company reserves the right to change specifications without notice.



# FNR series

Sealed rocker switches

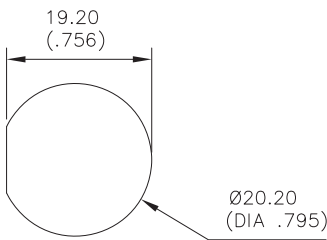
## GENERAL SPECIFICATIONS

- Total travel:  $\pm 15^\circ$ .
- Typical operating force at center:  $5\text{ N} \pm 1$
- Mechanical life: 1.000.000 cycles

## MATERIALS

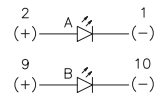
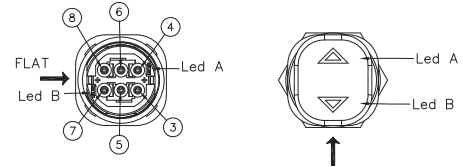
- Contacts : Gold alloy
  - Case : PBT
  - Actuator : PA6-6
  - Overmoulding: Polyamide
- APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

## PANEL CUT-OUT

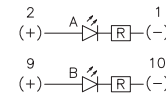


## WIRING DIAGRAM

WIRING DIAGRAM



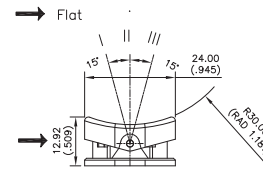
Without resistor



With resistor

Wire colors (F & C output)	
10	Brown
9	Orange
8	White
7	Black
6	Blue
5	Yellow
4	Red
3	Green
2	Purple
1	Grey

POSITION



CONNECTOR FOR C OUTPUT

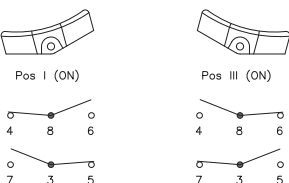
- Illuminated : Molex 510651000
- Non-illuminated : Molex 510650600

## ELECTRICAL FUNCTIONS AND CONNECTIONS

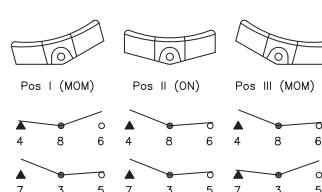
In the tables below, terminal connections as viewed from bottom of switch. Only the contact area is represented.

x = w/o terminal  
o = with terminal  
▲ = momentary

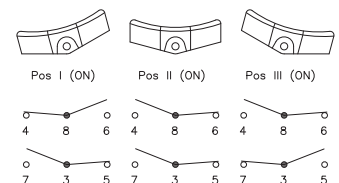
2 POSITIONS



3 POSITIONS MOM-ON-MOM

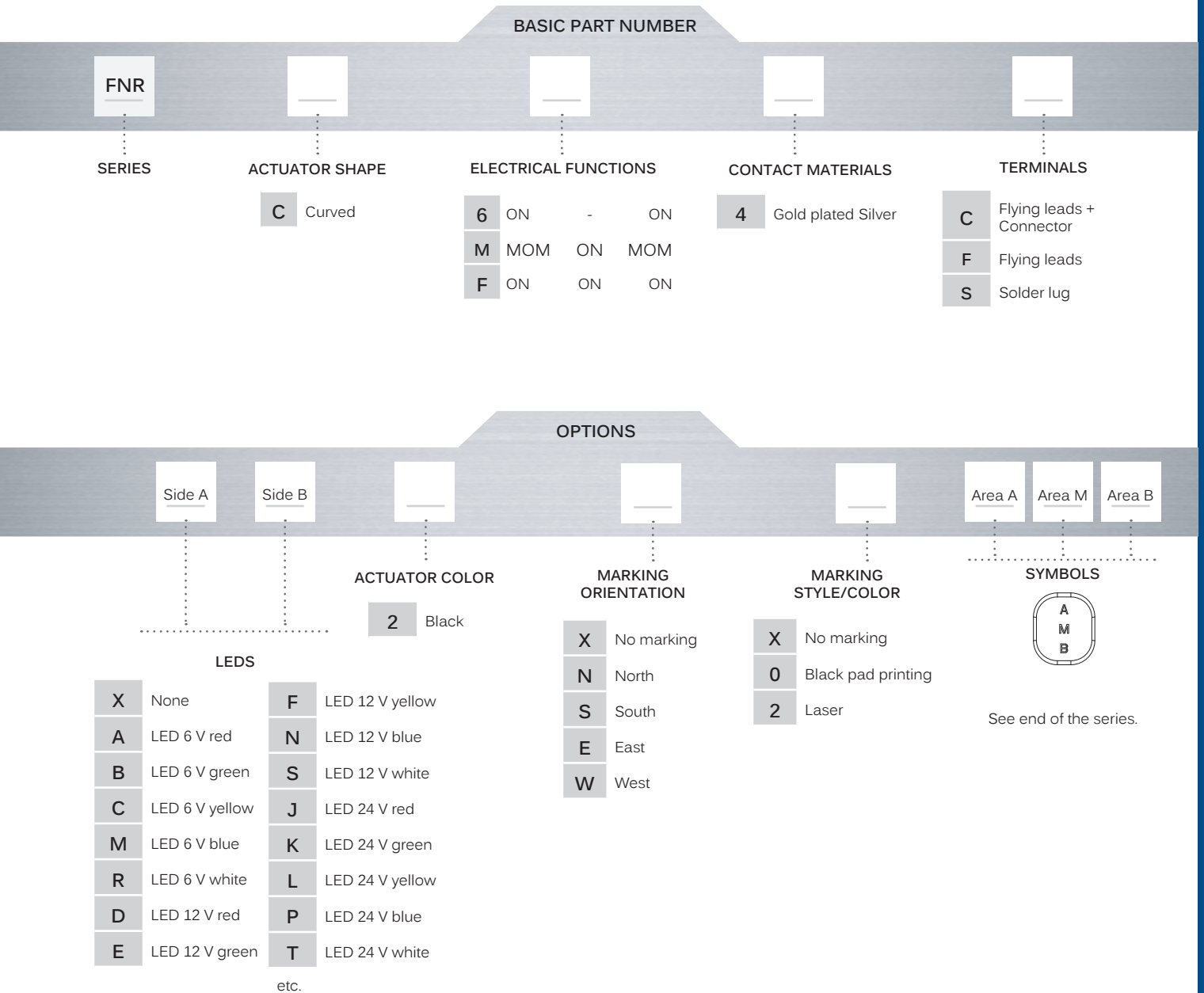


3 POSITIONS ON-ON-ON





### BUILD YOUR PART NUMBER



### ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

**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

# FNR series

Sealed rocker switches

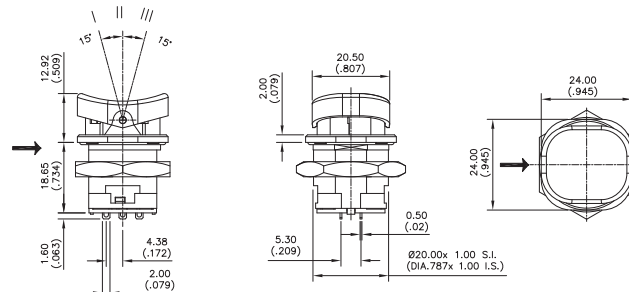
## SOLDER LUG TERMINALS



CURVED ACTUATOR

<b>FNRC64S</b>	ON	ON	ON
<b>FNRCM4S</b>	MOM	ON	MOM
<b>FNRCF4S</b>	ON	ON	ON

→ Flat



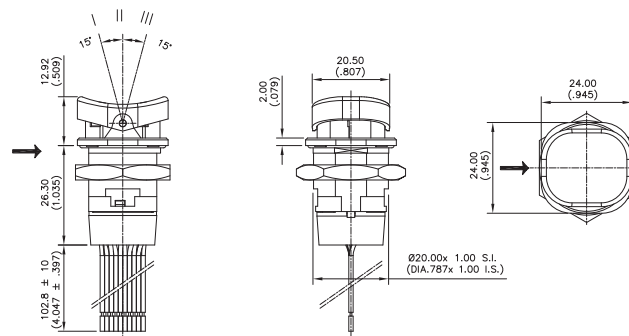
## FLYING LEADS TERMINALS



CURVED ACTUATOR

<b>FNRC64F</b>	ON	ON	ON
<b>FNRCM4F</b>	MOM	ON	MOM
<b>FNRCF4F</b>	ON	ON	ON

→ Flat



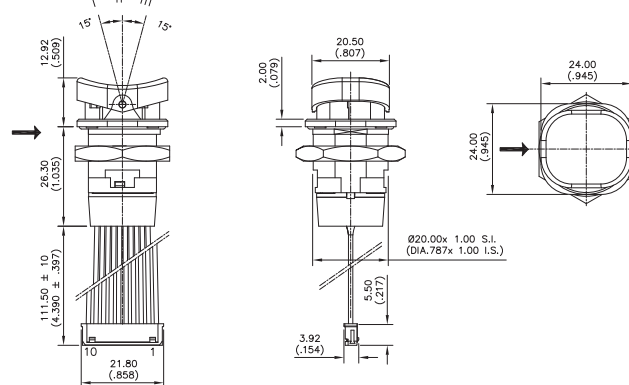
## FLYING LEADS + CONNECTOR TERMINALS



CURVED ACTUATOR

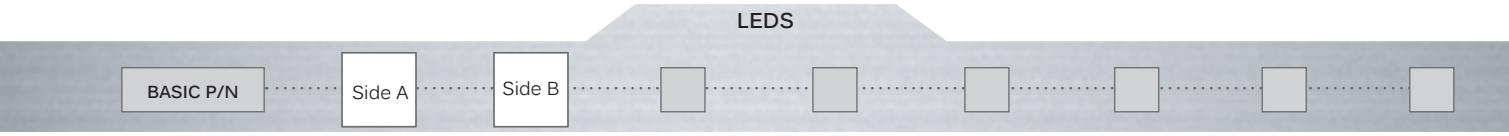
<b>FNRC64C</b>	ON	ON	ON
<b>FNRCM4C</b>	MOM	ON	MOM
<b>FNRCF4C</b>	ON	ON	ON

→ Flat



# FNR series

Sealed rocker switches

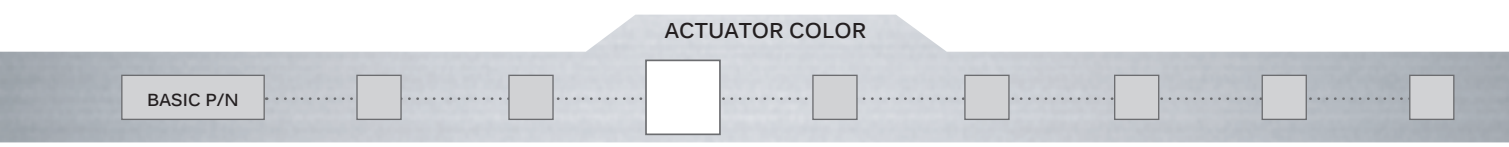


Complete each enlarged box with one of the codes listed below.

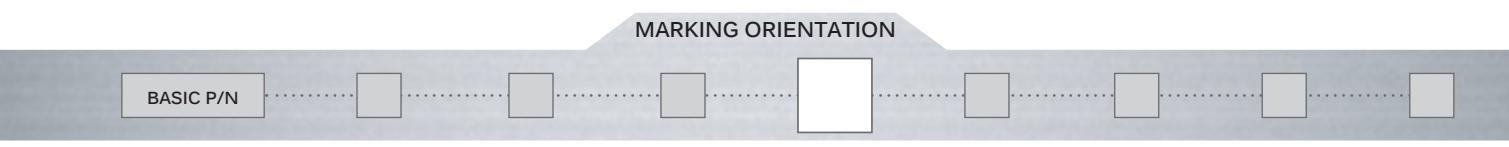
X Without LED

	Red	Green	Yellow	Blue	White	Red/green
No resistor	<b>U</b>	<b>V</b>	<b>W</b>	<b>Y</b>	<b>Z</b>	-
12 VDC	<b>D</b>	<b>E</b>	<b>F</b>	<b>N</b>	<b>S</b>	<b>2</b>
24 VDC	<b>J</b>	<b>K</b>	<b>L</b>	<b>P</b>	<b>T</b>	<b>3</b>

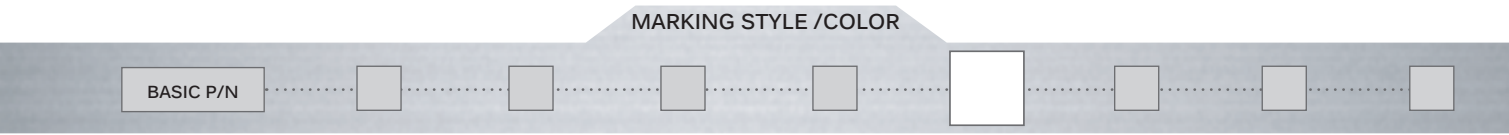
12 VDC is calibrated for 15 VDC max  
 24 VDC is calibrated for 30 VDC max



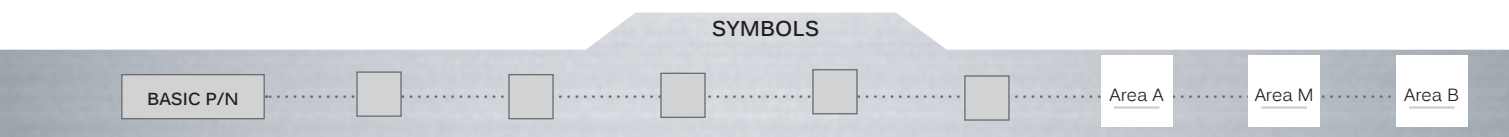
2 Black



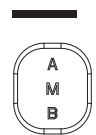
X No marking  
 N North  
 S South  
 E East  
 W West



X No marking  
 0 Black pad printing  
 2 Laser



XXX No marking  
 Other markings : see logo list



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Apem:](#)

[FNRC64SXX2X](#) [FNRCF4FSS2N2XWRX53XPM](#) [FNRCF4SXX2X](#) [FNRCM4FSS2N2X09XXXX10](#) [FNRCM4SXX2X](#)