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.

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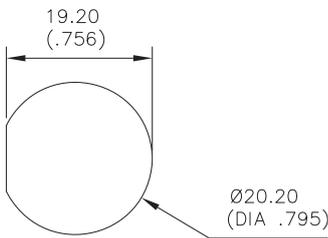
FNR series

Sealed rocker switches

⚙ GENERAL SPECIFICATIONS

- Total travel: ± 15°.
- Typical operating force at center: 5 N ± 1
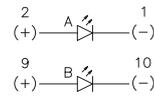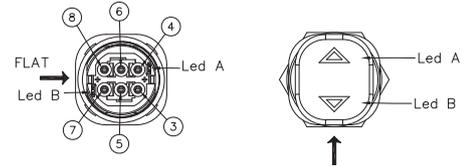- Mechanical life: 1.000.000 cycles

◩ 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.
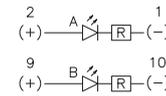
🪛 PANEL CUT-OUT

19.20
(.756)

Ø20.20
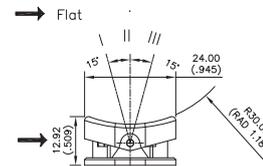(DIA .795)

⤬ WIRING DIAGRAM

WIRING DIAGRAM

FLAT
Led A
Led B

Led A
Led B

2 (+) — A — 1 (−)
9 (+) — B — 10 (−)

Without resistor

2 (+) — A — R — 1 (−)
9 (+) — B — R — 10 (−)

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

Flat

15° 15° 24.00 (.945)
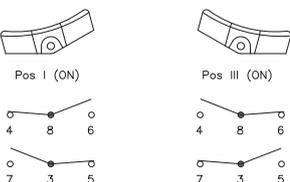12.92 (.509)
R30.00 (RAD 1.181)

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

Pos I (ON)   Pos III (ON)

4 8 6   4 8 6
7 3 5   7 3 5

3 POSITIONS MOM-ON-MOM

Pos I (MOM)   Pos II (ON)   Pos III (MOM)

▲4 8 6○   ▲4 8 6   4 8 6○
▲7 3 5○   ▲7 3 5   7 3 5○

3 POSITIONS ON-ON-ON

Pos I (ON)   Pos II (ON)   Pos III (ON)

4 8 6   4 8 6   4 8 6
7 3 5   7 3 5   7 3 5
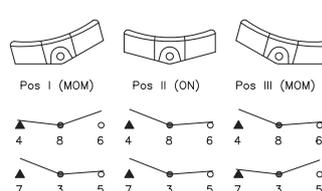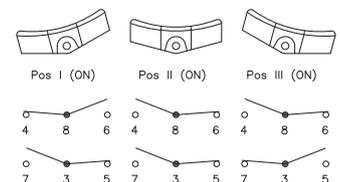
FNR series

Sealed rocker switches

BUILD YOUR PART NUMBER

BASIC PART NUMBER

SERIES	ACTUATOR SHAPE	ELECTRICAL FUNCTIONS	CONTACT MATERIALS	TERMINALS
FNR				

SERIES: FNR

ACTUATOR SHAPE:
- C Curved

ELECTRICAL FUNCTIONS:
- 6 ON - ON
- M MOM ON MOM
- F ON ON ON

CONTACT MATERIALS:
- 4 Gold plated Silver

TERMINALS:
- C Flying leads + Connector
- F Flying leads
- S Solder lug

OPTIONS

Side A	Side B	ACTUATOR COLOR	MARKING ORIENTATION	MARKING STYLE/COLOR	Area A	Area M	Area B

LEDS

X	None	F	LED 12 V yellow
A	LED 6 V red	N	LED 12 V blue
B	LED 6 V green	S	LED 12 V white
C	LED 6 V yellow	J	LED 24 V red
M	LED 6 V blue	K	LED 24 V green
R	LED 6 V white	L	LED 24 V yellow
D	LED 12 V red	P	LED 24 V blue
E	LED 12 V green	T	LED 24 V white

etc.

ACTUATOR COLOR:
- 2 Black

MARKING ORIENTATION:
- X No marking
- N North
- S South
- E East
- W West

MARKING STYLE/COLOR:
- X No marking
- 0 Black pad printing
- 2 Laser

SYMBOLS

A
M
B

See end of the series.

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
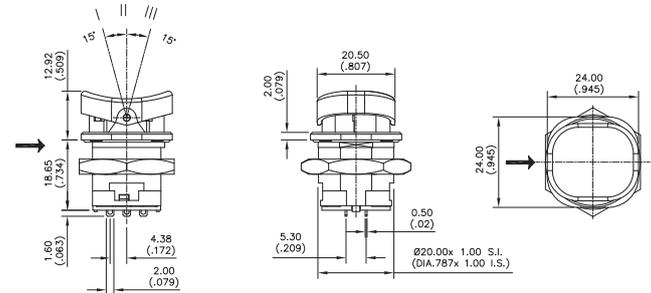
FNR series

Sealed rocker switches

SOLDER LUG TERMINALS

CURVED ACTUATOR

FNRC64S	ON		ON
FNRCM4S	MOM	ON	MOM
FNRCF4S	ON	ON	ON

→ Flat

FLYING LEADS TERMINALS

CURVED ACTUATOR

FNRC64F	ON		ON
FNRCM4F	MOM	ON	MOM
FNRCF4F	ON	ON	ON

→ Flat
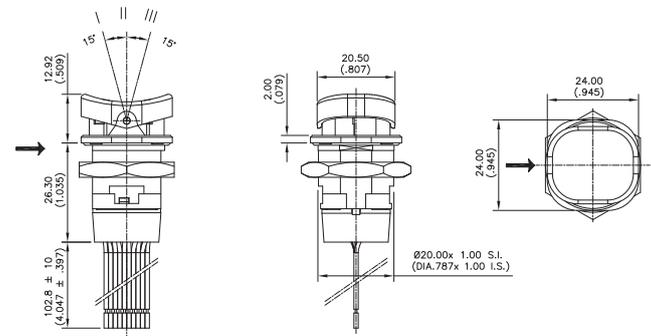
FLYING LEADS + CONNECTOR TERMINALS

CURVED ACTUATOR

FNRC64C	ON		ON
FNRCM4C	MOM	ON	MOM
FNRCF4C	ON	ON	ON

→ Flat

FNR series

Sealed rocker switches

LEDS

| BASIC P/N | Side A | Side B | | | | | | |
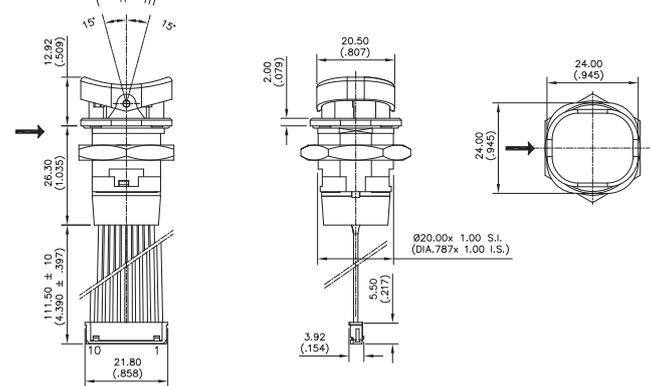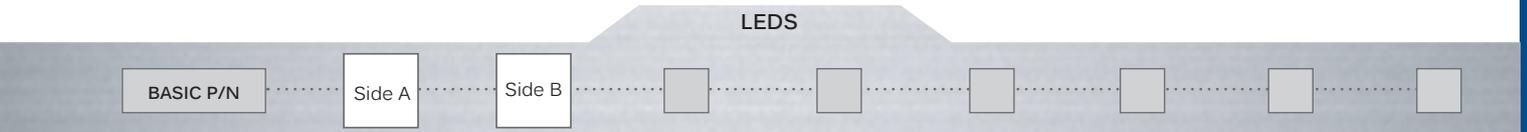
Complete each enlarged box with one of the codes listed below.

X   Without LED

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

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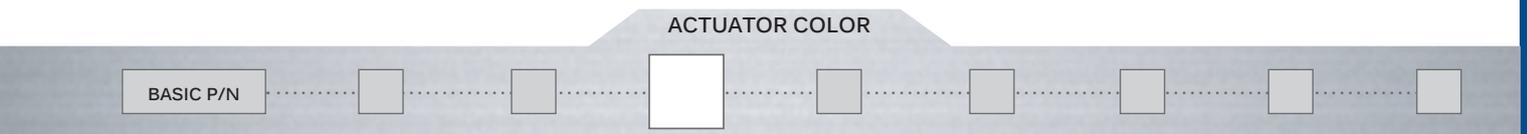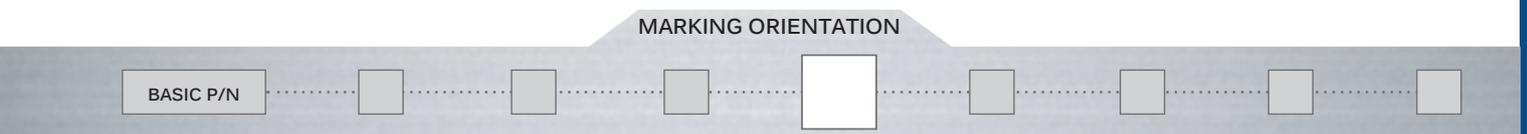
ACTUATOR COLOR

| BASIC P/N | | | | | | | | |

2   Black

MARKING ORIENTATION

| BASIC P/N | | | | | | | | |

X   No marking
N   North
S   South
E   East
W   West

MARKING STYLE /COLOR

| BASIC P/N | | | | | | | | |

X   No marking
0   Black pad printing
2   Laser

SYMBOLS

| BASIC P/N | | | | | | Area A | Area M | Area B |
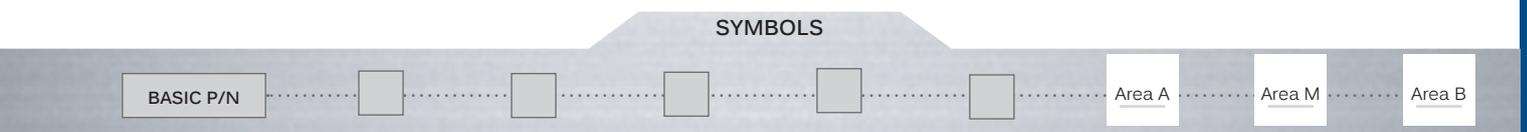
XXX   No marking
Other markings : see logo list