

PUSHBUTTON SWITCHES FOR HARSH ENVIRONMENTS

Overview

• **COMPACT & ILLUMINATED**

The bushing and bezel assembly is made of a single piece of zinc die cast and fits into a Ø 13,6 mm (.535) panel cut-out. The round or square actuator is efficiently protected against mechanical shocks.

The status illumination is available with high brightness LED colours.

• **TACTILE FEEDBACK**

The switching mechanism provides excellent tactile sensation, together with very precise actuation and has been designed for severe conditions (shocks, vibrations, high and low temperatures...).

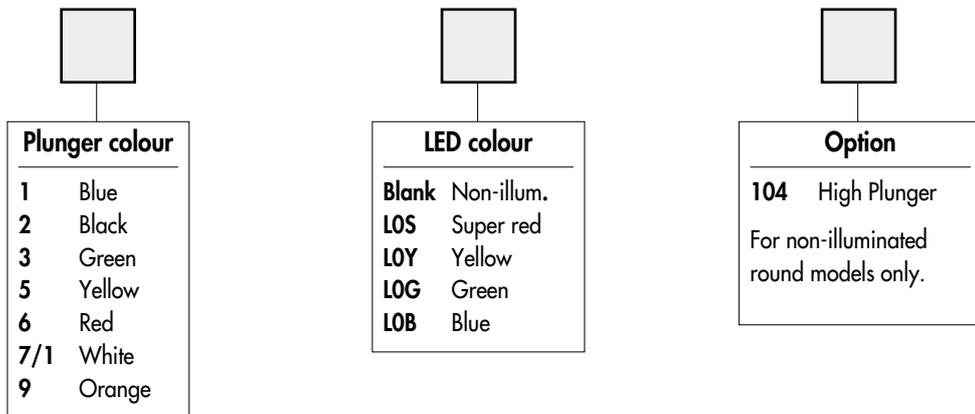
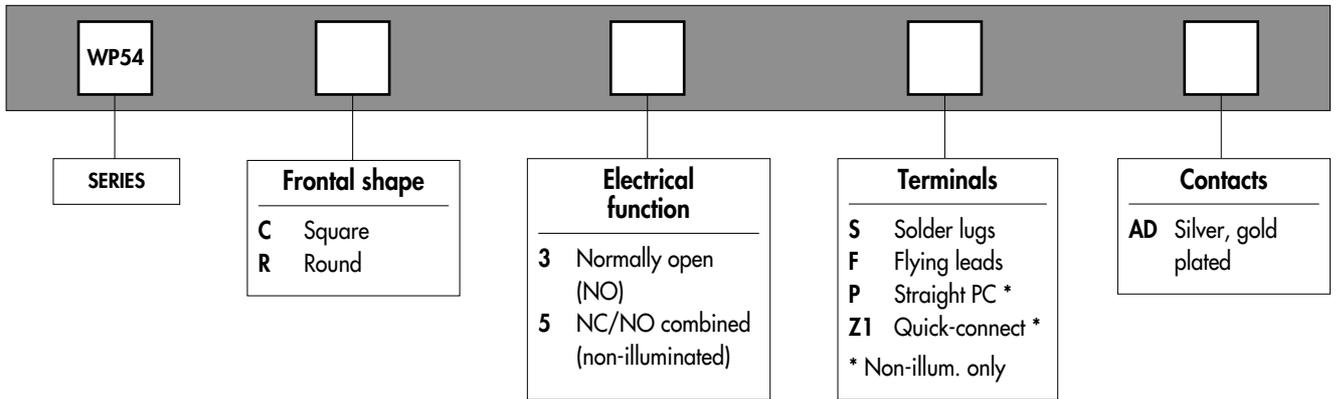
Contacts have been tested for 1.000.000 cycles.

• **SEALED TO IP 67**

For the whole range, the degree of protection is IP 67. The internal sealing of the switch is assured by an elastomer membrane.

Models with sealed flying lead terminals are suitable for multiple environments

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ABOUT THIS SERIES

On the following pages, you will find successively :

- specifications
- 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.



A sealing boot is available to protect the switches against frost and sand. It is presented at the end of the series and in section N.



Mounting accessories : Standard hardware supplied : 1 hex nut 14 mm (.551) across flats and 1 O-ring. The hex nut is presented in section N (part number U166).



Packaging unit : 25 pieces

PUSHBUTTON SWITCHES FOR HARSH ENVIRONMENTS

Specifications

ENVIRONMENTAL SPECIFICATIONS

- Degree of protection : IP 67
- Shock resistance : 100 g according to IEC 512-4, test 6c
- Vibration resistance : 10-500Hz - 10 g according to IEC 512-4, test 6d
- Salt spray : IEC 512-6, test 11f
- Robustness (non-illuminated sw.) : IK06 according to EN 50102 (1 joule)
- Operating temperature : -40°C to +125°C

ELECTRICAL AND GENERAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
500mA 48VAC - 200mA 50VDC - 200mA 250VAC
- Initial contact resistance : 50 mΩ max.
- Insulation resistance : 1 GΩ min. at 500VDC
- Dielectric strength : 1.500 VAC rms
- Electrical life at full load : 500.000 cycles
- Panel thickness : 1,5 mm (.059) min. - 4 mm (.157) max.
- Total travel : 1,5 mm (.059)
- Operating force : 3N +/- 1N
- Contact bounce : 10 ms
- Mechanical life : 1.000.000 cycles
- Torque : 1,5 Nm max. applied to nut
- Soldering : 320°C max. for 3 seconds

Led component specifications

- Super red Led : forward current 20mA - luminous intensity up to 125 mcd
 - Yellow Led : forward current 20mA - luminous intensity up to 125 mcd
 - Green and blue Led : forward current 10mA - luminous intensity up to 20 mcd
- A resistor must be series-connected by the user.

MATERIALS

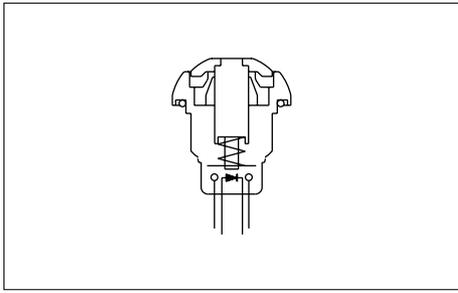
- Case : thermoplastic UL94-V0
- Plunger : thermoplastic 6/6
- Bushing/bezel : zinc die-cast (zamac), black painted
- Contacts : silver, gold plated
- Multi-wire lead AWG20, section 0,6 mm², UL approved
- Lens : polycarbonate
- Terminal seal : epoxy

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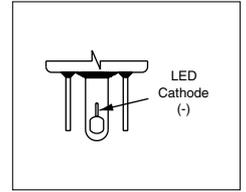


Latching action models now available.
Ask for our brochure IPOFF0110A.

WP54 SERIES
PUSHBUTTON SWITCHES FOR HARSH ENVIRONMENTS
 Square - illuminated

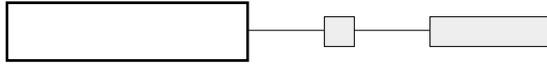


- High brightness illumination
- Three Led colours
- Tin plated Led terminals



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MODEL STRUCTURE



Solder lug terminals

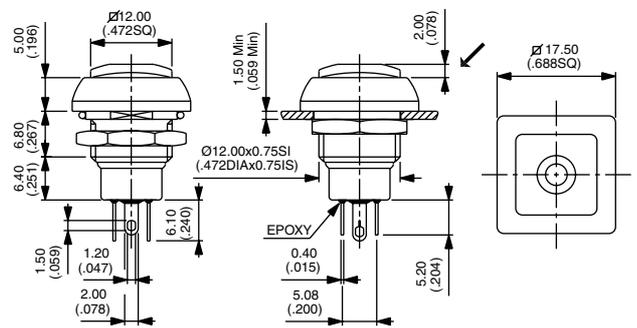


WP54C3SAD



Normally Open

→ Flat



Sealed flying lead terminals

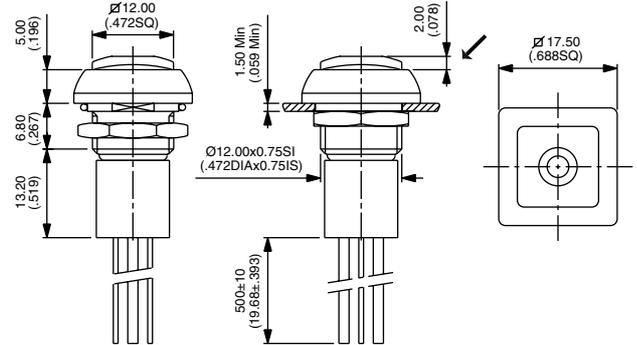


WP54C3FAD



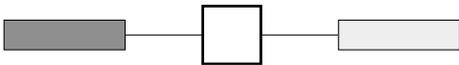
Normally Open

→ Flat



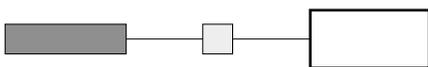
Wire colours : black : NO contact, red : LED anode(+), blue : LED cathode(-)

PLUNGER COLOUR



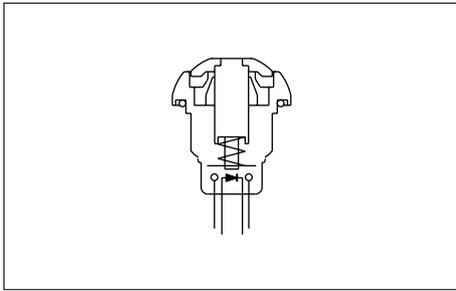
1 : blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7/1 : white - 9 : orange

LED COLOUR

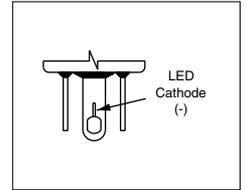


L0S : super red - L0Y : yellow - L0G : green - L0B : blue

WP54 SERIES
PUSHBUTTON SWITCHES FOR HARSH ENVIRONMENTS
Round - illuminated

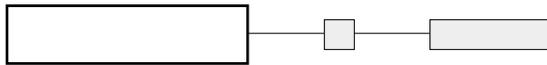


- High brightness illumination
- Three Led colours
- Tin plated Led terminals



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MODEL STRUCTURE



Solder lug terminals

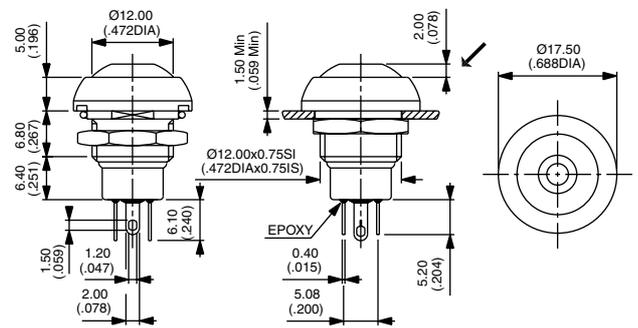


WP54R3SAD



Normally Open

→ Flat



Sealed flying lead terminals

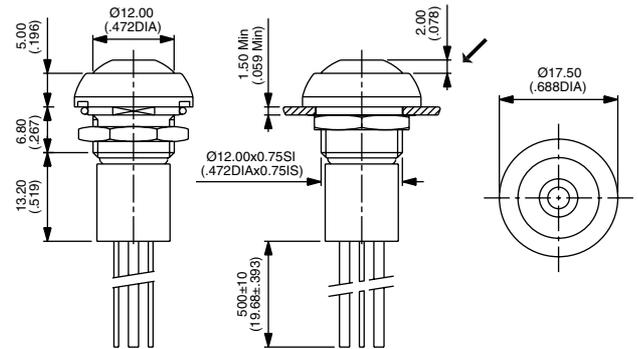


WP54R3FAD



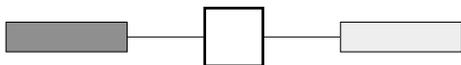
Normally Open

→ Flat



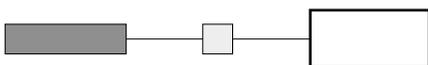
Wire colours : black : NO contact, red : LED anode(+), blue : LED cathode(-)

PLUNGER COLOUR



1 : blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7/1 : white - 9 : orange

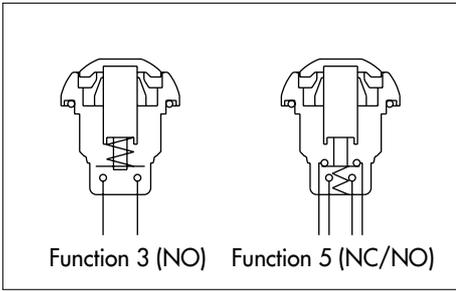
LED COLOUR



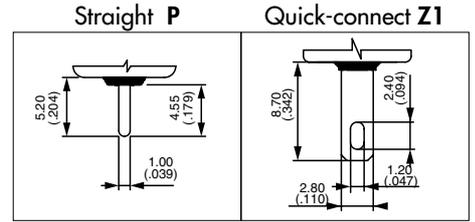
L0S : super red - L0Y : yellow - L0G : green - L0B : blue

PUSHBUTTON SWITCHES FOR HARSH ENVIRONMENTS

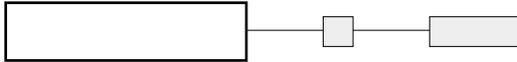
Round - non-illuminated



- Double function (NC/NO combined) with a short behind-panel depth



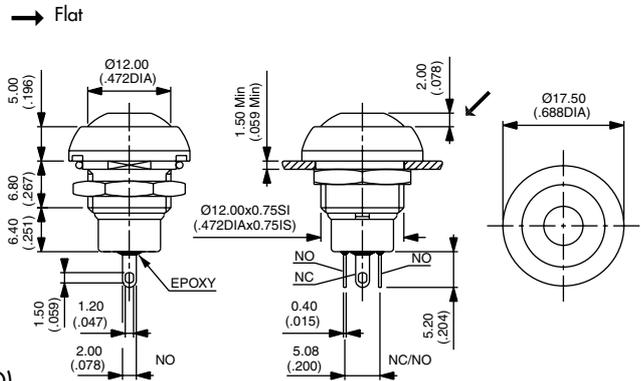
MODEL STRUCTURE



Solder lug terminals



- WP54R3SAD** Normally Open
- WP54R5SAD** NC/NO combined

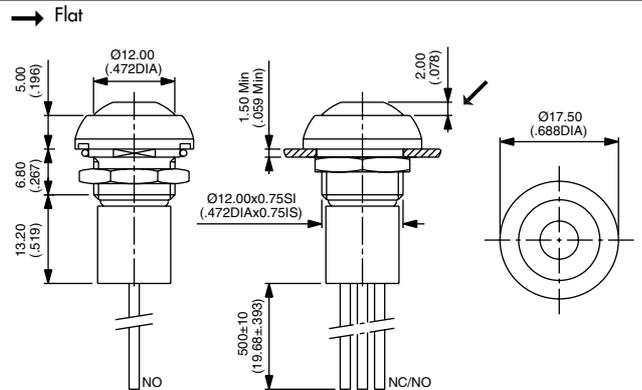


Also available with straight PC terminals : **IPR3PAD** (NO) or **IPR5PAD** (NC/NO) and quick-connect terminals : **IPR3Z1AD** (NO only)

Sealed flying lead terminals



- WP54R3FAD** Normally Open
- WP54R5FAD** NC/NO combined



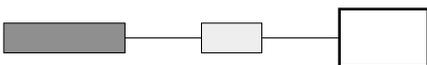
Wire colours (NC/NO) : black : NO, blue : NC

PLUNGER COLOUR

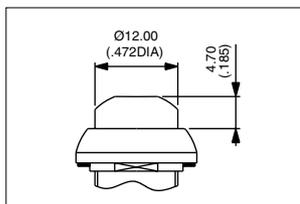


1 : blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7/1 : white - 9 : orange

PLUNGER OPTION



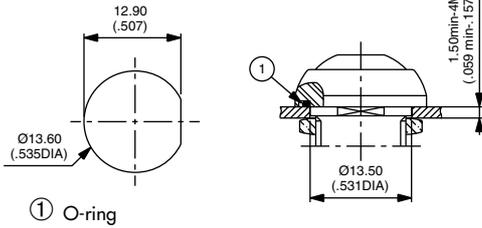
104 : High plunger



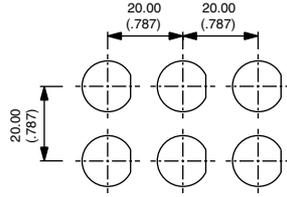
PUSHBUTTON SWITCHES FOR HARSH ENVIRONMENTS

MOUNTING

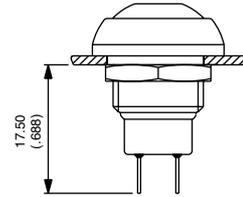
Panel cut-out



Matrix mounting

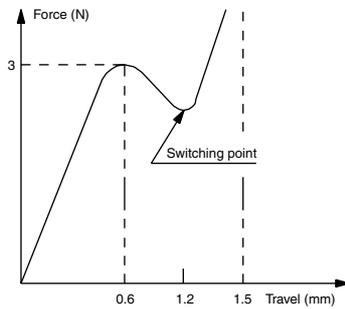


Back of panel space requirement

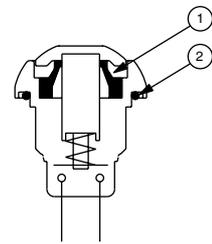


TACTILE FEEDBACK

**Operating forces/
travels diagram
(indicative nominal curve)**



Cross section



① Elastomer membrane ② O-ring

SEALING

IP 67 for the whole series

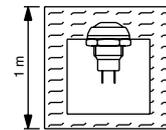
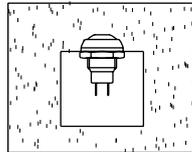
Degree of protection provided by the enclosures of electric appliances according to IEC 529, DIN 40050 and NFC 20-010.

IP
(ingress protection)

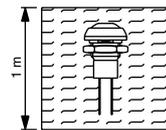
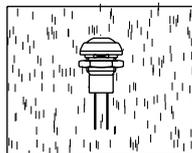
6
Totally protected
against dust

7
Protected against the effects of
immersion up to 1 m water (30 mn)

**SOLDER LUG
VERSION**



**FLYING LEAD
VERSION**



The above illustrations show non-illuminated models.

SANSONIC

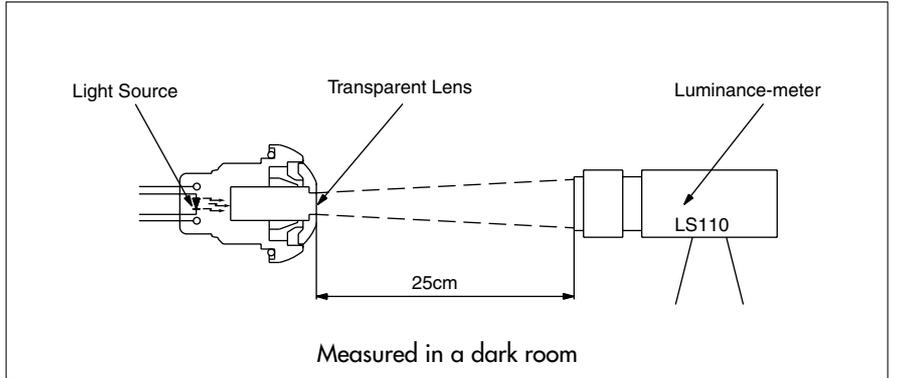
WP54 SERIES
PUSHBUTTON SWITCHES FOR HARSH ENVIRONMENTS

LUMINANCE MEASUREMENT MODE

Test conditions

TEST RESULTS *		
Led types	Luminance	Forward current
LOS (super red)	4000 Cd/m ²	20mA
LOY (yellow)	3500 Cd/m ²	20mA
LOG (green)	400 Cd/m ²	10mA

* in our lab conditions
 For blue Led, consult factory.



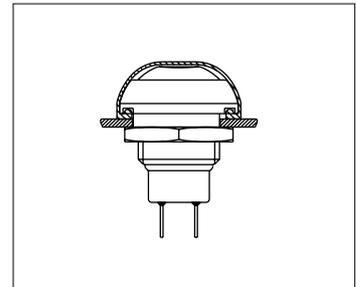
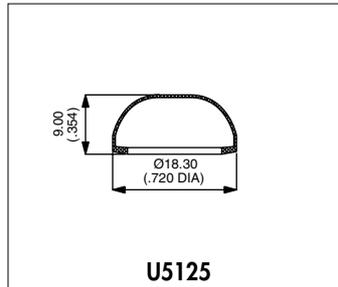
ADDITIONAL SEALING

For ROUND plungers only, illuminated or non-illuminated.

By transparent silicone overboot U5125 for protection against frost and abrasion by sand. Order separately.

Operating temperature : -40°C to +125°C.

Note : The switches remain sealed to IP67 even after eventual perforation of the boot.



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