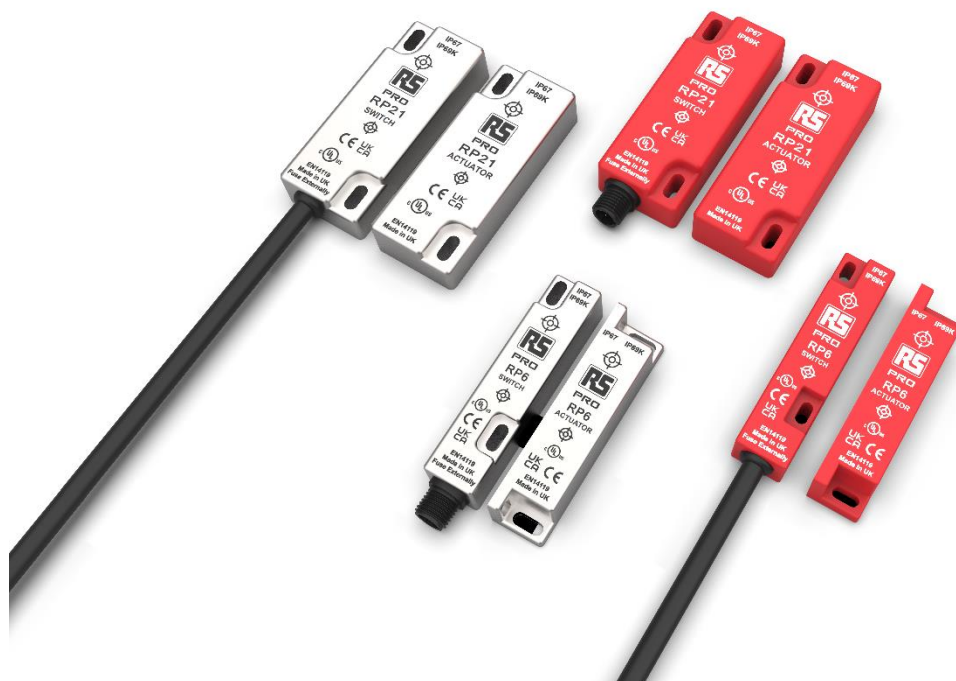


## Features

- Magnetically Operated.
- Volt Free Contacts.
- Wide Range Of Housings.
- Tolerant to Misalignment.
- Sealed to IP67 / IP69K

## Non Contact Safety Switches

RS Stock No.: 0656591



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

## Product Description

*RS PRO RP6 and RP21 safety switches are non-contact, magnetically operated switch and actuator suitable for use in machine guarding applications. The non-contact operation helps to ensure a long and trouble free operating life.*

*These safety switches are available in a robust ABS, or 316 Grade Stainless Steel housing and both switch and actuator are fully sealed to IP67/IP69K making them suitable for use in wet or dusty environments. They are easy to install and tolerant to misalignment. With correct installation, these safety switches comply with the guidelines given in EN14119.*

## Electrical Specifications

Supply voltage	24Vac/dc (+/- 15%)
Operation	Magnet & Reed
Contact Arrangements	2 x N/O + 1 x N/C
Safety contact N/O ON and OFF between	8mm – 28mm
Auxiliary contact N/C OFF and ON between	11mm – 21mm
Safety Contact Rating	24Vdc / 300mA
Auxiliary Contact Rating	24Vdc / 300mA
Internal Fuse	230Vac – 2 Amps / 110Vac
External Fuse	230Vac – 1.6Amps / 110Vac – 3.0 Amps 24Vdc – 800mA
IP Rating	IP67 / IP69K
Connection	Pre-wired or M12 Quick Disconnect
Operating Temperature	-25°C to +55°C
Storage Temperature	-25°C to +55°C
Mounting	Target to target
Vibration	10 – 50Hz IEC 68-2-6
Shock	30g, 11ms IEC 68-2-27
Construction	Red ABS Resin Filled or 316 grade stainless steel resin filled

## Protection Category

PL in accordance with EN ISO 13849-1	PL-e, CAT 4
SIL CL in accordance with EN IEC 62061	SIL 3
PFHd in accordance with EN IEC 62061	$4.3 \times 10^{-08}$
PFH	$6.52 \times 10^{-08}$
B10d	$2 \times 10^6$
MTTFd	>100 years (Based on usage rate of 360 days/year, 24 hours/day, 10 operations/hour)
Tm (mission time)	>20 years
DC	99%
SFF	98%

## Approvals

CE	Complies with all relevant sections of the CE marking directive
UKCA	Complies with all relevant sections of the UKCA marking directive
TUV	CAT 4 SIL 3 PLe
EN ISO 13849-1	Safety of Machinery – Safety related parts of control systems
EN ISO 62061	Safety of Machinery – Functional safety of safety related electrical, electronic and programmable electronic control systems
EN 60204	Safety of Machinery - Electrical equipment for machines
EN 60947-5-1	Low voltage switchgear and control gear
EN 14119	Interlocking devices associated with guards
EN 60947-5-3	Safety of Machinery – Specification for low voltage switchgear and control gear

## Similar Products

Stock No.	Brand	Product Name	Attribute 1	Attribute 2	Attribute 3
400.007	RS PRO	RP21-SS-21-DC-06M	Pre-Wired	2NO+1NC	Stainless Steel
400.008	RS PRO	RP21-SS-21-DC-QD	M12 QD	2NO+1NC	Stainless Steel
400.009	RS PRO	RP21-21-DC-06M	Pre-Wired	2NO+1NC	Plastic
400.010	RS PRO	RP21-21-DC-QD	M12 QD	2NO+1NC	Plastic
400.011	RS PRO	RP21-10-AC-04M	Pre-Wired	1NO	Plastic
400.012	RS PRO	RP21-11-AC-03M	Pre-Wired	1NO+1NC	Plastic
400.013	RS PRO	RP21-11-AC-06M	Pre-Wired	1NO+1NC	Plastic
400.014	RS PRO	RP21-11-AC-QD	M12 QD	1NO+1NC	Plastic
400.015	RS PRO	RP21-21-AC-03M	Pre-Wired	2NO+1NC	Plastic
400.016	RS PRO	RP21-21-AC-06M	M12 LQD	2NO+1NC	Plastic
400.017	RS PRO	RP21-11-DC-03M	Pre-Wired	1NO+1NC	Plastic
400.018	RS PRO	RP21-11-DC-QD	M12 QD	1NO+1NC	Plastic
400.019	RS PRO	RP21-20-DC-03M	Pre-Wired	2NO	Plastic
400.020	RS PRO	RP21-20-DC-QD	M12 QD	2NO	Plastic
400.021	RS PRO	RP21-21-DC-03M	Pre-Wired	2NO+1NC	Plastic
400.022	RS PRO	RP21-SS-11-AC-03M	Pre-Wired	1NO+1NC	Stainless Steel
400.023	RS PRO	RP21-SS-21-AC-03M	Pre-Wired	2NO+1NC	Stainless Steel
400.024	RS PRO	RP21-SS-21-DC-03M	Pre-Wired	2NO+1NC	Stainless Steel
400.025	RS PRO	RP21-SS-20-DC-03M	Pre-Wired	2NO	Stainless Steel
400.026	RS PRO	RP6-SS-21-DC-05M	Pre-Wired	2NO+1NC	Stainless Steel
400.027	RS PRO	RP6-SS-21-DC-QD	M12 QD	2NO+1NC	Stainless Steel
400.028	RS PRO	RP6-21-DC-06M	Pre-Wired	2NO+1NC	Plastic
400.029	RS PRO	RP6-21-DC-QD	M12 QD	2NO+1NC	Plastic
400.030	RS PRO	RP6-10-AC-03M	Pre-Wired	1NO	Plastic
400.031	RS PRO	RP6-10-AC-QD	M12 QD	1NO	Plastic
400.032	RS PRO	RP6-10-110AC-03M	Pre-Wired	1NO	Plastic
400.033	RS PRO	RP6-10-DC-03M	Pre-Wired	1NO	Plastic
400.034	RS PRO	RP6-10-DC-QD	M12 QD	1NO	Plastic
400.035	RS PRO	RP6-SS-11-DC-03M	Pre-Wired	1NO+1NC	Stainless Steel
400.036	RS PRO	RP6-SS-11-DC-06M	Pre-Wired	1NO+1NC	Stainless Steel

## Mounting

Do not use safety switches as a stop. 1 mm separation when closed provides the best results.

Mount the switch on to the machine frame and the actuator on to the opening edge of the door.

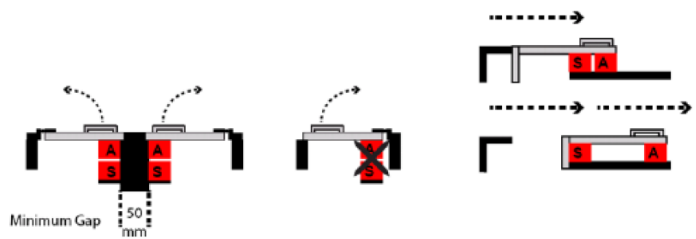
Always try to mount the switch on non-ferrous material. (Ferrous materials may reduce the switching distance.)

EN14119: Hide the actuator where possible.

### NOTES:

Minimum separation 50mm between adjacent switches

DO NOT mount on hinged side of the guard.

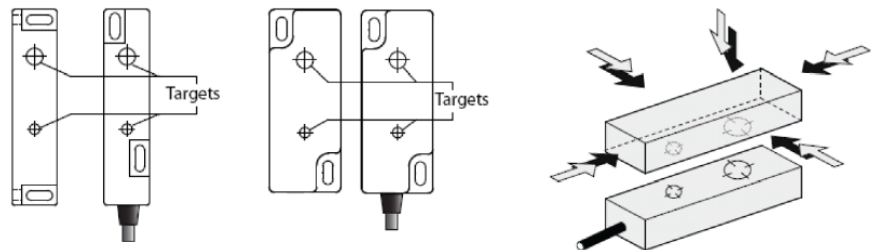


## Operation

The N/O contacts on the RP6 and RP21 switches are open when the actuator is away from the switch.

When the actuator is within the specified operating distance, the N/O contact will close and the N/C contact will open.

The RP6 & RP21 safety switches and actuators are designed to approach each other from most angles. When the guard is closed the targets on the printed face of the switch and actuator must be aligned.

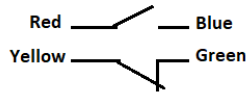


## PRE-WIRED

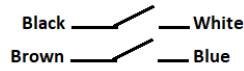
RP6-10 (AC&DC)  
RP6-10 (110AC)



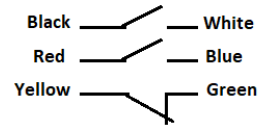
RP6-SS-11 (DC)  
RP21-11 (AC&DC)



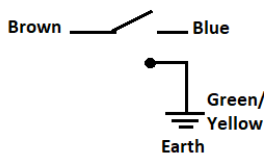
RP21-20 (AC&DC)



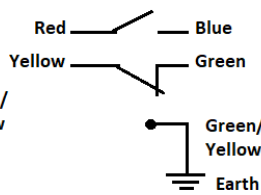
RP6-21 (AC&DC)  
RP6-SS-21 (DC)  
RP21-21 (AC&DC)



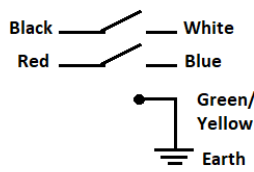
RP6-SS-10 (AC)



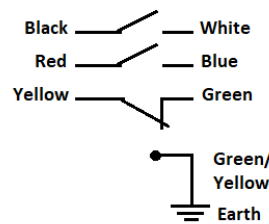
RP21-SS-11 (AC&DC)



RP21-SS-20 (DC)

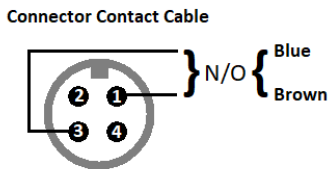


RP21-SS-21 (AC&DC)



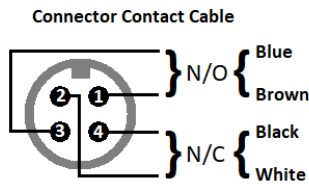
## QUICK DISCONNECT

RP6-10 (AC&DC)



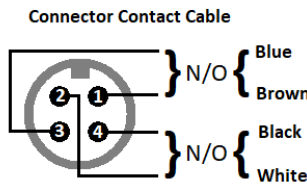
Connector - Micro DC M12

RP21-11 (AC&DC)



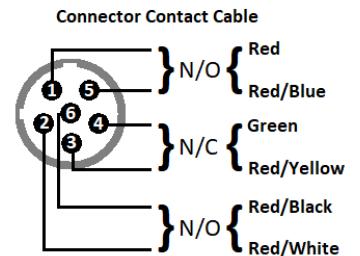
Connector - Micro DC M12

RP21-20 (AC&DC)



Connector - Micro DC M12

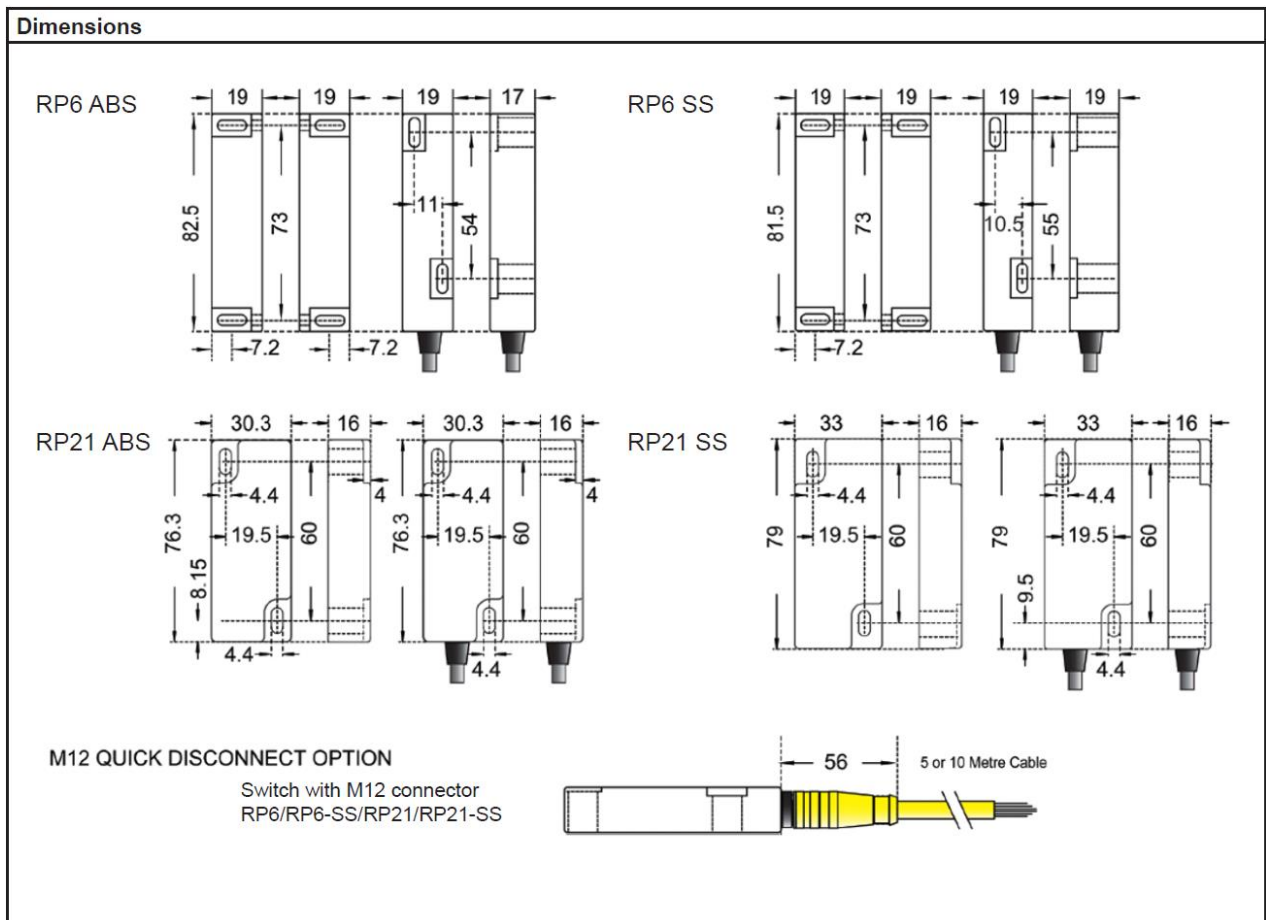
RP6-21 (AC&DC)  
RP6-SS-21 (DC)  
RP21-21 (AC&DC)  
RP21-SS-21 (DC)



Connector - Micro AC 1/2" - 20

<b>Contact Operation</b>	The N/O contacts on the RS PRO switches are open when the actuator is away from the switch. When the actuator is within the specified operating distance the N/O contact will close and the N/C contact will open.
<b>Fuses</b>	All safety contacts should be fused externally AC CONTACTS = 1.6 Amps Quick Blow Fuse (RP6-10-110AC = 3 Amps Quick Blow Fuse) DC CONTACTS = 0.8 Amps Quick Blow Fuse

## Dimensions



## Maintenance

It is recommended to check the safe operation of the switches and look for signs of damage or excessive wear on a weekly basis. Damaged units should be replaced or returned to the manufacturer for repair where practical.

## Notes

In the interest of product development specifications are subject to change without notice.

It is the responsibility of the user to ensure compliance with any acts or by-laws in place.

All information regarding equipment is believed to be accurate at the time of printing. Responsibility cannot be accepted for errors or omissions.

All dimensions are approximate.