

Coaxial Two Way Switch (DPDT) || BN 512716



**Radio frequency characteristics**

Interface type (3x 4 connections)	N-f (50 Ω)			
Characteristic impedance	50 Ω			
Frequency range	0 to 1 GHz	1 to 2 GHz	2 to 3 GHz	3 to 5 GHz
VSWR, max.	1.03	1.13	1.13	1.22
Isolation, min.	75 dB	60 dB	60 dB	50 dB
Insertion loss, max.	0.04 dB	0.04 dB	0.06 dB	0.06 dB
Average power capability *	790 W	560 W	450 W	350 W
Peak voltage capability *	3.0 kV			

**Electrical and mechanical data**

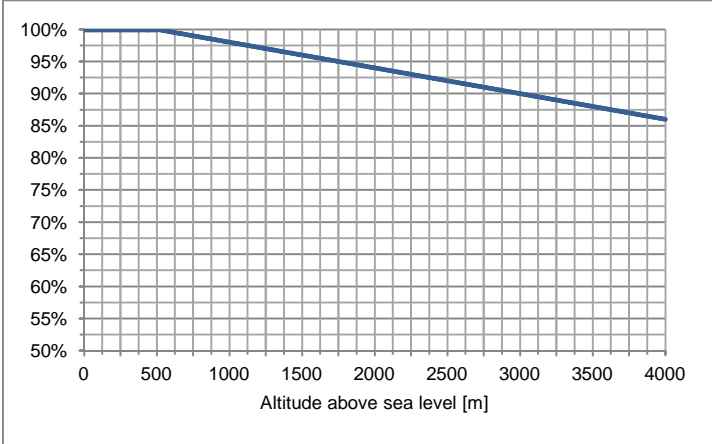
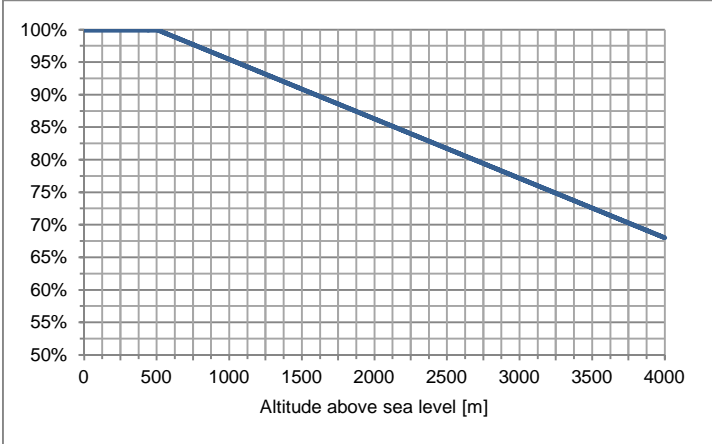
Switch type	3 mechanically linked two way switches, DPDT		
Actuator type	Solenoid drive, latching, self cutoff		
Connector J1 for operating voltage, control, interlock contacts and signaling	37 pole male connector according to DIN 41652 / IEC 807-2		
Operating	Operating voltage	22 to 31 V DC	
	Operating current, nom. ** / max.	1.9 A / 2.4 A	
	Stand by current, max.	35 mA	
	Nominal fuse	The switch must be externally fused with 3 A time-delay by the user	
Control Controlling either with signal 1 or signal 2.	Control voltage for signal 1, min.	12 V DC	It's not allowed to use both control signals at the same time.
	Control current for signal 1, max.	1 mA	
	Control voltage for signal 2, max.	2 V DC	
	Control current for signal 2, typ.	-1 mA	
	Nominal fuse	The circuit must be externally limited to 0.5 A by the user	
Signal contacts	Maximum ratings	SELV circuits according to IEC EN 60950-1, 42.4 V ACpk / 60 V DC / 0.5 A	
	Nominal fuse	The circuit must be externally limited to 0.5 A by the user	

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Switching time, typ.**	100 ms
Command hold time, min.	100 ms (during this time, the voltage at control input must not change)
Switching frequency, max.	10 operations per minute
Life, min.	100,000 operations
Weight, approx.	2 kg

**Environmental conditions**

<b>Operational conditions</b>	ETSI EN 300 019-1-3 V2.3.2 (2009-1) class 3.1 N																				
Ambient temperature ***	-10 to +45°C																				
Condensation	Not allowed																				
Relative humidity, max.	95%																				
Derating of input power with increasing altitude	<p>The maximum input power can be applied up to 500 m or 1600 ft above sea level unless noted otherwise in the data sheet. Above this height the maximum input power must be reduced as shown in the diagram.</p>  <table border="1"> <caption>Derating of input power with increasing altitude</caption> <thead> <tr> <th>Altitude above sea level [m]</th> <th>Power (%)</th> </tr> </thead> <tbody> <tr><td>0</td><td>100</td></tr> <tr><td>500</td><td>100</td></tr> <tr><td>1000</td><td>97.5</td></tr> <tr><td>1500</td><td>95</td></tr> <tr><td>2000</td><td>92.5</td></tr> <tr><td>2500</td><td>90</td></tr> <tr><td>3000</td><td>87.5</td></tr> <tr><td>3500</td><td>85</td></tr> <tr><td>4000</td><td>82.5</td></tr> </tbody> </table>	Altitude above sea level [m]	Power (%)	0	100	500	100	1000	97.5	1500	95	2000	92.5	2500	90	3000	87.5	3500	85	4000	82.5
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Protection class	III according to IEC EN 61140																				

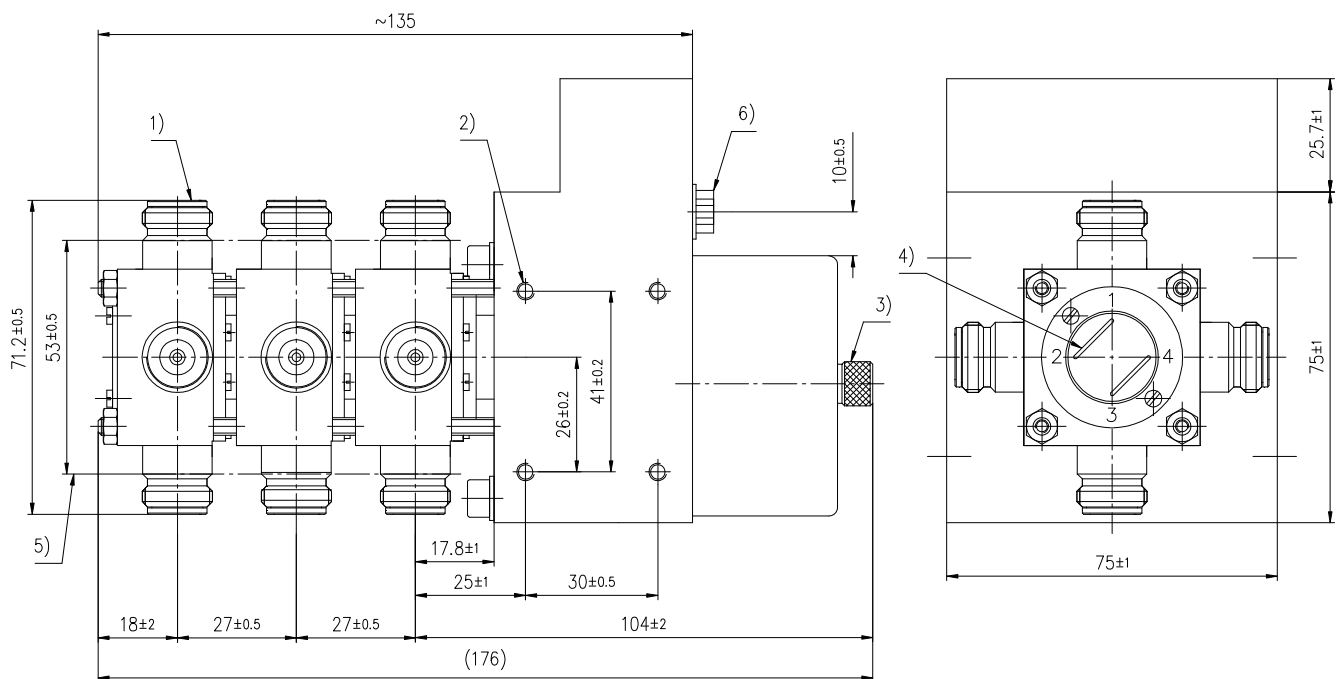
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IP protection level	IP40 according to IEC EN 60529 (all interfaces connected with appropriate gaskets)
Installation position	Optional
<b>Transport conditions</b>	ETSI EN 300 019-1-2 V2.1.4 (2003-04) class 2.2
Ambient temperature	-25 to +70°C
Rain, condensation, icing	Not allowed
<b>Storage conditions</b>	ETSI EN 300 019-1-1 V2.1.4 (2003-04) class 1.2
Ambient temperature	-10 to +45°C
Rain, condensation, icing	Not allowed

- \* *Standard conditions:*  
*Dielectric: Dry air under standard pressure at sea level ( $p = 1013 \text{ hPa}$ )*  
*Load VSWR, max. 1.0 (no standing wave)*  
*No modulation, sinusoidal carrier only*
- \*\* *At room temperature and nominal voltage 24 V DC*
- \*\*\* *Extended temperature range on request*

Outline (all dimensions in millimeters)



- 1) RF connectors: N female (50 Ohms)
- 2) Four threaded mounting holes M4/7.5 deep on both sides
- 3) Manual operation
- 4) Position indication
- 5) Reference plane
- 6) 37 pole male connector acc. to DIN 41652 / IEC 807-2

Switch shown in RF position I

RF connection  
 RF position I: 1-2, 3-4  
 RF position II: 1-4, 2-3

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## Circuit diagram

