DC–12.4 GHz Electromechanical SPDT RF Switch, Failsafe/Latching Options

CW power handling is 350 W over DC–5 GHz and 250 W over 5–12.4 GHz. Failsafe or latching options use break-before-make switching with a ≤15 ms switching time.

RF connectors are N female and stated weight is 250 g. The optional TTL version lists 20 mA current and separate indicator contacts, with distinct TTL and non-TTL pin definitions.



General specifications

Parameter	Value	Unit
Model number	LCSPDT-DC12400-N-H	-
Switch type	SPDT	-
Frequency range	DC–12.4 (Minimum: 0 GHz. Maximum: 12.4 GHz.)	GHz
Drive mode	Failsafe / latching options	-
Control option	Non-TTL / optional TTL	-
Impedance	50	Ω
Switching sequence	Break-before-make	-
Switching speed	≤15	ms
Switching life	2000000 cycles	-

Electrical specifications

Parameter	Value	Unit
Insertion loss — DC–5 GHz [1]	≤0.3	dB
Isolation — DC–5 GHz [2]	≥70	dB
VSWR — DC–5 GHz [3]	≤1.3	-
CW power handling — DC–5 GHz [4]	350	W
Insertion loss — 5–12.4 GHz [5]	≤0.5	dB
Isolation — 5–12.4 GHz [6]	≥60	dB
VSWR — 5–12.4 GHz [7]	≤1.5	-
CW power handling — 5–12.4 GHz [8]	250	W

[1] DC–5 GHz Maximum: 0.3 dB.
[2] DC–5 GHz Minimum: 70 dB.
[3] DC–5 GHz Maximum: 1.3.
[4] DC–5 GHz
[5] 5–12.4 GHz Maximum: 0.5 dB.
[6] 5–12.4 GHz Minimum: 60 dB.

[7] 5–12.4 GHz Maximum: 1.5.
[8] 5–12.4 GHz

Power configuration options

Parameter	Value	Unit
Failsafe current — 28 V [1]	150	mA
Latching current — 28 V [1]	150	mA
Failsafe current — 24 V [2]	180	mA
Latching current — 24 V [2]	180	mA
Failsafe current — 12 V [3]	300	mA
Latching current — 12 V [3]	320	mA

[1] Discrete voltage configuration; no continuous supply range inferred. 28 V
[2] Discrete voltage configuration; no continuous supply range inferred. 24 V
[3] Discrete voltage configuration; no continuous supply range inferred. 12 V

Optional TTL specifications

Parameter	Value	Unit
TTL low voltage	0–0.3 (Minimum: 0 V. Maximum: 0.3 V.)	V
TTL high voltage	3–5 (Minimum: 3 V. Maximum: 5 V.)	V
TTL current	20	mA

Indicator port specifications

Parameter	Value	Unit
Indicator withstand voltage [1]	50	V
Indicator current capacity [2]	100	mA
Indicator resistance [3]	15	Ω

[1] Maximum: 50 V.
[2] Maximum: 100 mA.
[3] Maximum: 15 Ω.

Integration guidance

Parameter	Value
Supply and ground connection	Connect VDC and GND before operation.

Environmental limits

Parameter	Value	Unit
Operating temperature [1]	−25–+65	°C
Storage temperature [2]	−55–+85	°C
Shock [3]	50 G / 11 ms	-
Vibration [4]	10 G RMS / 20–2000 Hz	-

[1] Maximum: 65 °C.

[2] Maximum: 85 °C.

[3] Non-operating shock.

[4] Operating vibration.

Environmental configuration options

Parameter	Value	Unit
Extended temperature option 1	−45–+85 (Extended temperature option; not the standard range. Minimum: -45 °C. Maximum: 85 °C.)	°C
Extended temperature option 2	−55–+85 (Extended temperature option; not the standard range. Minimum: -55 °C. Maximum: 85 °C.)	°C

Control interfaces

Parameter	Value
Non-TTL contact — 1 [1]	V
Non-TTL contact — 2 [2]	Not applicable
Non-TTL contact — 3 [3]	GND
Non-TTL contact — 4 [4]	Indicator 1
Non-TTL contact — 5 [5]	Indicator 2
Non-TTL contact — 6 [6]	Indicator common
Non-TTL contact — 7 [7]	VDC
Non-TTL contact — 8–9 [8]	Not applicable
TTL contact — 1 [1]	VDC
TTL contact — 2 [2]	TTL
TTL contact — 3 [3]	GND
TTL contact — 4 [4]	Indicator 1

Control interfaces

Parameter	Value
TTL contact — 5 [5]	Indicator 2
TTL contact — 6 [6]	Indicator common
TTL contact — 7 [7]	TTL
TTL contact — 8–9 [8]	Not applicable

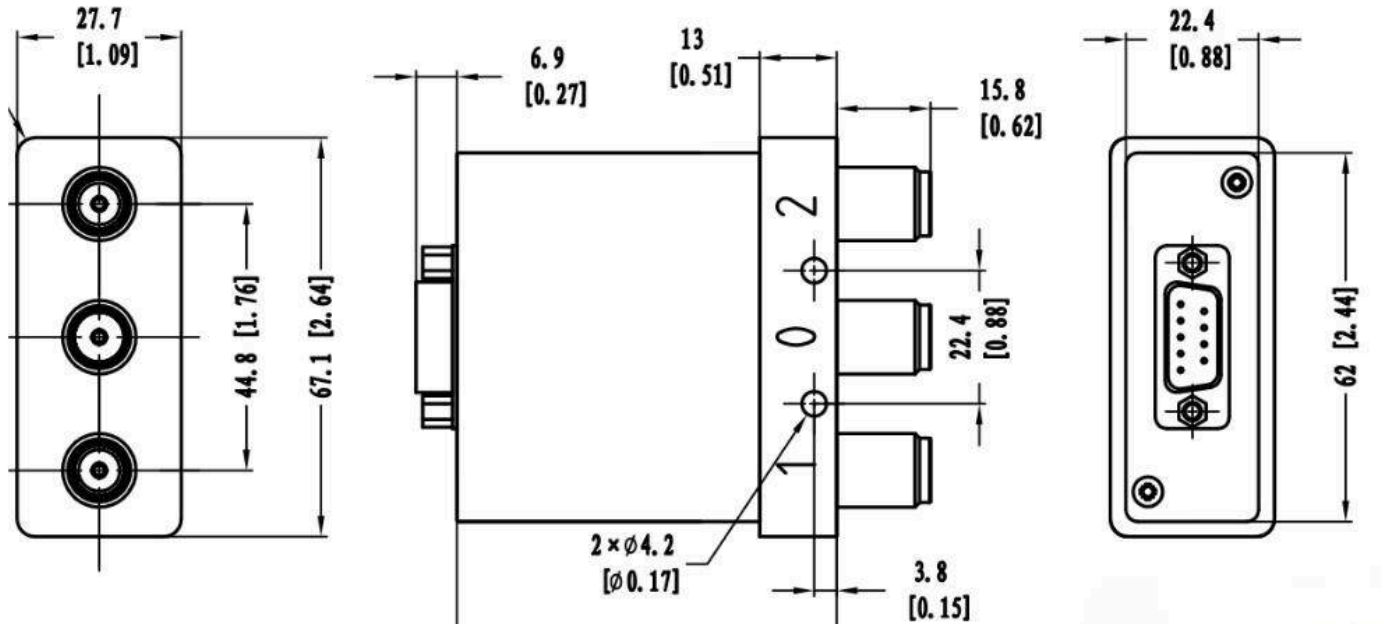
[1] 1
[2] 2
[3] 3
[4] 4
[5] 5
[6] 6
[7] 7
[8] 8–9

Switching states

Parameter	Value
Failsafe, power off	RF1–COM
Failsafe, power on	RF2–COM
Latching V1 path	RF1–COM
Latching V2 path	RF2–COM
TTL low path	RF1–COM
TTL high path	RF2–COM

Mechanical specifications

Parameter	Value	Unit
RF connectors	N — Female	-
Control connector	Pins / D-Sub 9-pin male	-
Weight	250	g



Document notice

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.