TERMINATED COAXIAL SPDT and DP3T up to 18 GHz − RAMSES Concept

R585 ▪ ▪ ▪ ▪ ▪ ▪ ▪

Connectors RF

3 : **SMA** up to 3 GHz
4 : **SMA** up to 18 GHz

Type

1 : Failsafe
2 : Failsafe + I.C.
3 : Latching
4 : Latching + I.C.
5 : Latching + S.C.O.(1)
6 : Latching + S.C.O. + I.C.(1)
7 : Normally Open
8 : Normally Open + I.C.

Actuator voltage

2 : 12 Vdc
3 : 28 Vdc

I.C. : Indicator contact.
S.C.O. : Self Cut Off

Actuator terminal

0 : Solder Pins

Options

0 : Without option
1 : Positive common (2)(4)
3 : With suppression diodes (1)
4 : With suppression diodes and positive common (3)(4)

TTL and termination options

0 : Without TTL driver (DP3T)
1 : With TTL driver (DP3T)
2 : Terminated (internal termination) / Without TTL driver
3 : Terminated (internal termination) / With TTL driver
4 : Terminated (external termination) / Without TTL driver
5 : Terminated (external termination) / With TTL driver

(1) : *Suppression diodes are already included in Self Cut-off and TTL*
(2) : *TTL option is not available with this option*
(3) : *Self Cut-off and TTL options are not available with this option*
(4) : *Positive common must be specified only with Type 3, 4, 5 or 6*

GENERAL SPECIFICATIONS - RF PERFORMANCES

Connectors		SMA			
		DC - 3 / DC - 18			
Frequency range	*GHz*	DC - 3	3 - 8	8 - 12.4	12.4 - 18
V.S.W.R. (max)		1.20	1.30	1.40	1.50
Insertion Loss (max)	*dB*	.20	.30	.40	.50
Isolation (min)	*dB*	80	70	60	60
Impedance	Ω	50			
Switching sequence		Break Before Make			

GENERAL SPECIFICATIONS - ADDITIONAL SPECIFICATIONS

Operating mode		Failsafe, Latching or Normally open					
		Failsafe		**Latching**		**Normally open**	
Actuator voltage (nominal)	*Vdc*	12	28	12	28	12	28
Coil resistance (±10%)	Ω	24	138	29	175	47.5	275
Operating current at 23°C	*mA*	500	205	420	160	250	102
Average power		See Power Rating Chart page 9					
TTL INPUT	*High level* *Low level*	2.2 to 5.5 V 0 to 0.8 V					
Peak power	*kW*	1.5 (1 µs, 1 ‰)					
Indicator rating		1 W - 30 V - 100 mA					
Switching time (max)	*ms*	10					
Life		$2 \cdot 10^6$ cycles for products with internal terminations $10 \cdot 10^6$ cycles for all other products					
Connectors		SMA					
Actuator terminals		Solder pins					
Operating temperature range	*°C*	–40, +85					
Storage temperature range	*°C*	–55, +85					

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COAXIAL DP3T up to 18 GHz − RAMSES Concept

TYPICAL OUTLINE DRAWING

DP3T
R585 − − − 0 − −
R585 − − − 1 − −

With internal terminations
R585 − − − 2 − −
R585 − − − 3 − −

With external terminations
R585 − − − 4 − −
R585 − − − 5 − −
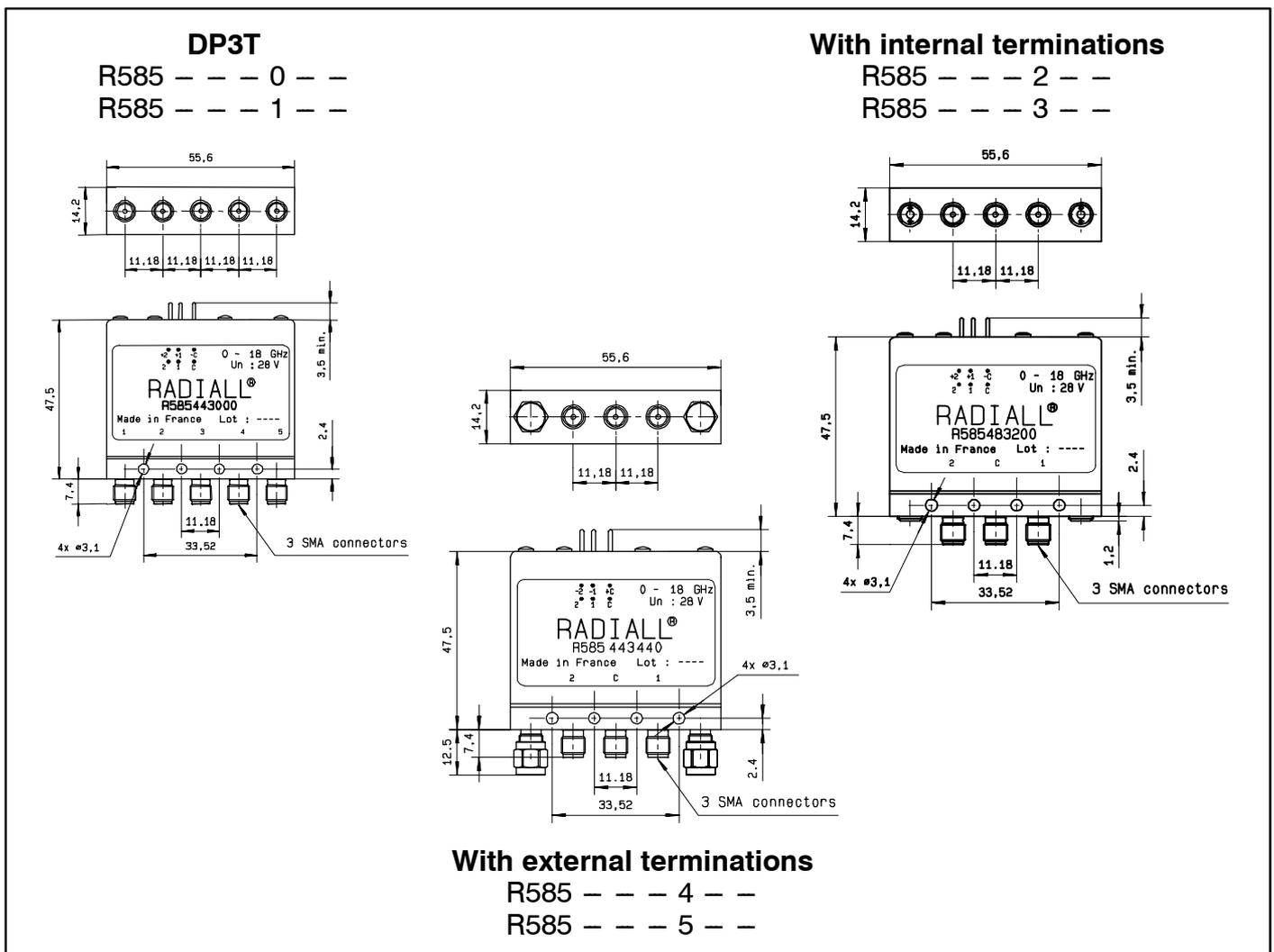
SCHEMATICS OF ELECTRICAL CONNECTION FOR **DP3T** SWITCHES:

FAILSAFE

WITHOUT OPTION
R585 – 1 – 000 / R585 – 1 – 200 / R585 – 1 – 400

RF input

Actuator

1
2
3
4
5

–
+

Power input terminals
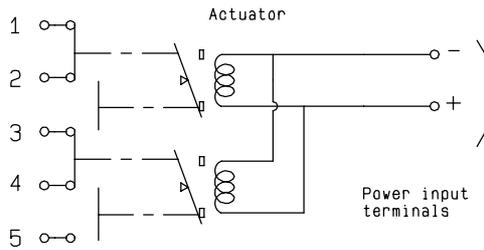
Position: De-energized

WITH INDICATOR CONTACT
R585 – 2 – 000 / R585 – 2 – 200 / R585 – 2 – 400

RF input

Indicator terminals

1NC
2NO
C

Actuator

1
2
3
4
5

–
+

Power input terminals
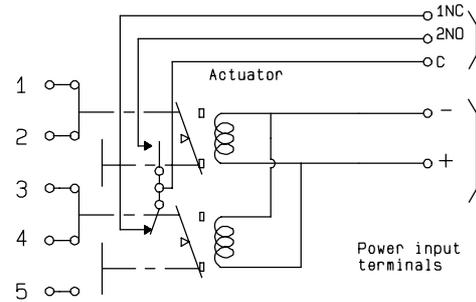
Position: De-energized

WITH SUPPRESSION DIODES
R585 – 1 – 030 / R585 – 1 230 : R585 – 1 – 430

RF input

Actuator

1
2
3
4
5

–
+

Power input terminals
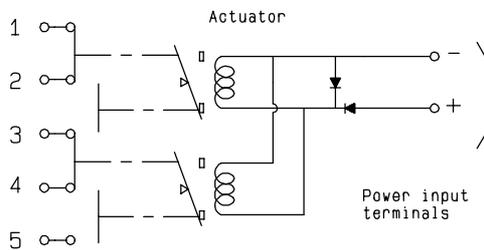
Position: De-energized

WITH SUPPRESSION DIODES AND INDICATOR CONTACT
R585 – 2 – 030 / R585 – 2 – 230 / R585 – 2 – 430

RF input

Indicator terminals

1NC
2NO
C

Actuator

1
2
3
4
5

–
+

Power input terminals
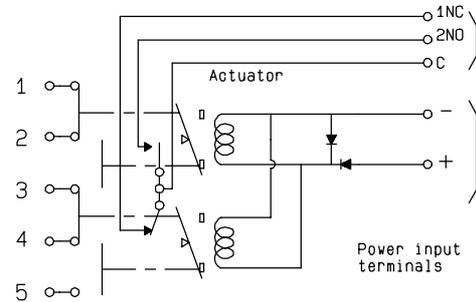
Position: De-energized

WITH TTL DRIVER
R585 – 1 – 100 / R585 – 1 – 300 / R585 – 1 – 500

RF input

Actuator

1
2
3
4
5

TTL

Vcc
GND
E

Power input terminals
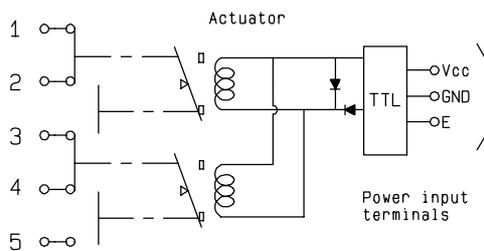
Position: De-energized

WITH TTL DRIVER AND INDICATOR CONTACT
R585 – 2 – 100 / R585 – 2 – 300 / R585 – 2 – 500

RF input

Indicator terminals

1NC
2NO
C

Actuator

1
2
3
4
5

TTL

Vcc
GND
E

Power input terminals
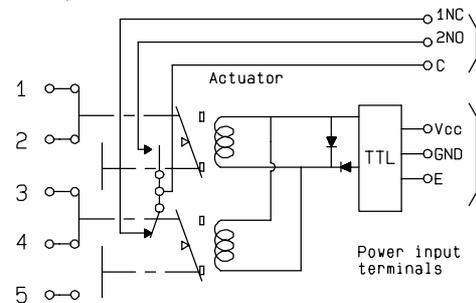
Position: De-energized

SCHEMATICS OF ELECTRICAL CONNECTION FOR **DP3T** SWITCHES:

NORMALLY OPEN

WITHOUT OPTION
R585 − 7 − 000 / R585 − 7 − 200 / R585 − 7 − 400
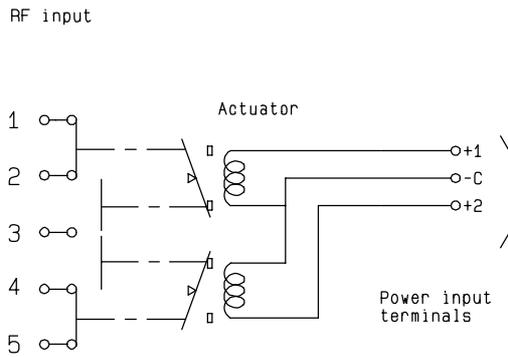
WITH INDICATOR CONTACT
R585 − 8 − 000 / R585 − 8 − 200 / R585 − 8 − 400
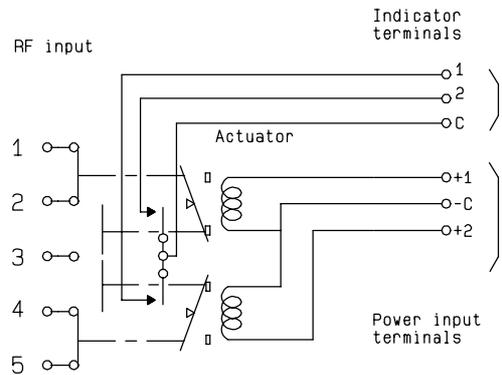
WITH SUPPRESSION DIODES
R585 − 7 − 030 / R585 − 7 − 230 / R585 − 7 − 430
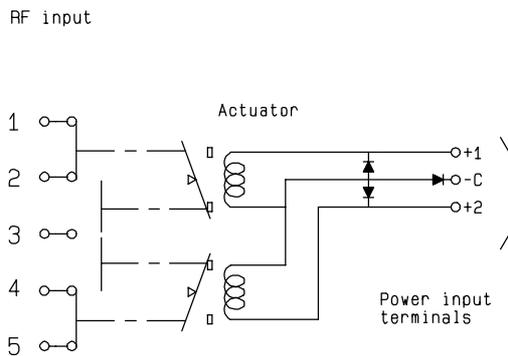
WITH SUPPRESSION DIODES AND INDICATOR CONTACT
R585 − 8 − 030 / R585 − 8 − 230 / R585 − 8 − 430
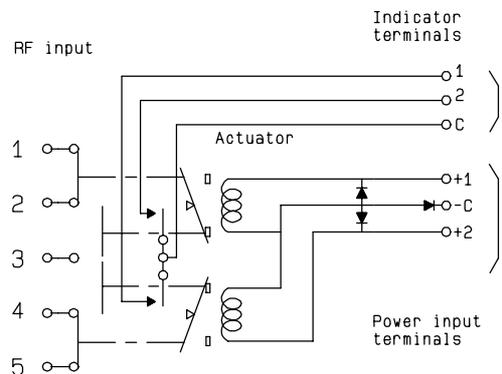
WITH TTL DRIVER
R585 − 7 − 100 / R585 − 7 − 300 / R585 − 7 − 500
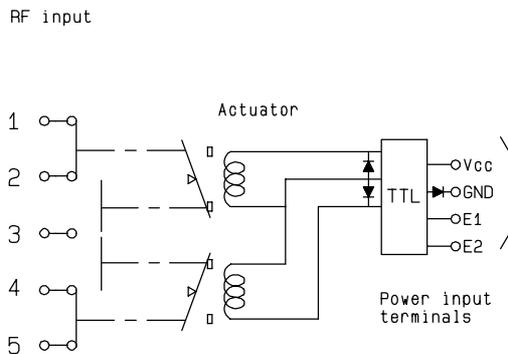
WITH TTL DRIVER AND INDICATOR CONTACT
R585 − 8 − 100 / R585 − 8 − 300 / R585 − 8 − 500

TECHNICAL INFORMATION
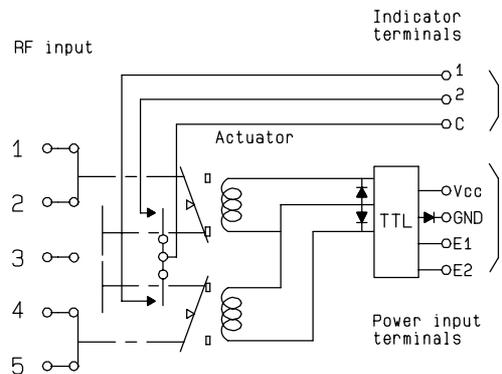
## SCHEMATICS OF ELECTRICAL CONNECTION FOR **DP3T** SWITCHES:

NORMALLY OPEN

WITH POSITIVE COMMON, NO OPTION
R585 – 7 – 010 / R585 – 7 – 210 / R585 – 7 – 410
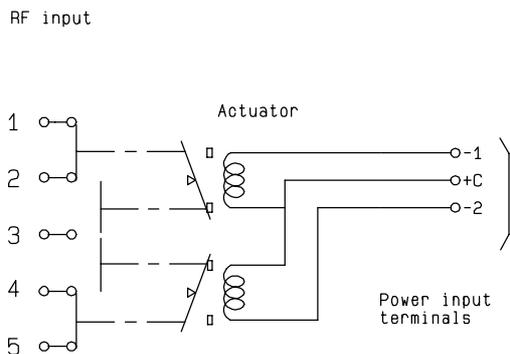
WITH COMMON POSITIVE AND INDICATOR CONTACT
R585 – 8 – 010 / R585 – 8 – 210 / R585 – 8 – 410
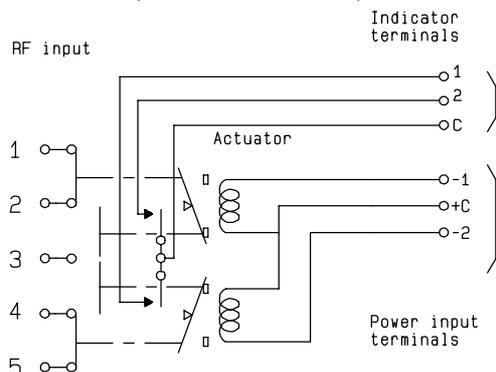
WITH POSITIVE COMMON AND SUPPRESSION DIODES
R585 – 7 – 040 / R585 – 7 – 240 / R585 – 7 – 440
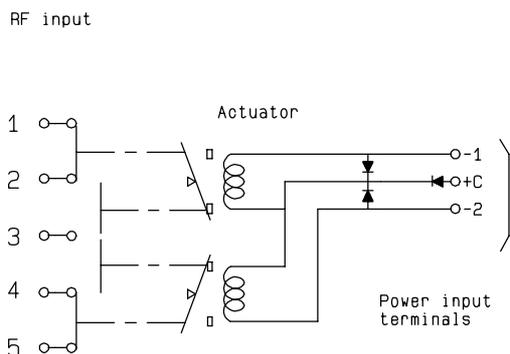
WITH POSITIVE COMMON, SUPRESSION DIODES AND INDICATOR CONTACT
R585 – 8 – 040 / R585 – 8 – 240 / R585 – 8 – 440
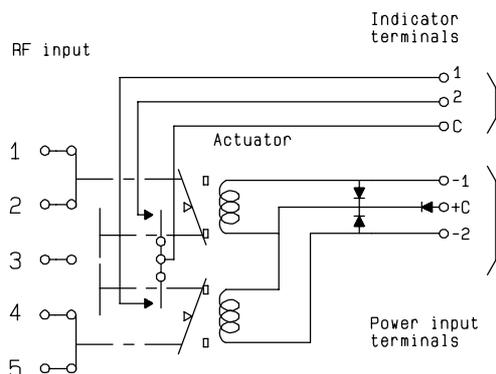
LATCHING

WITHOUT OPTION
R585 – 3 – 000 / R585 – 3 – 200 / R585 – 3 – 400
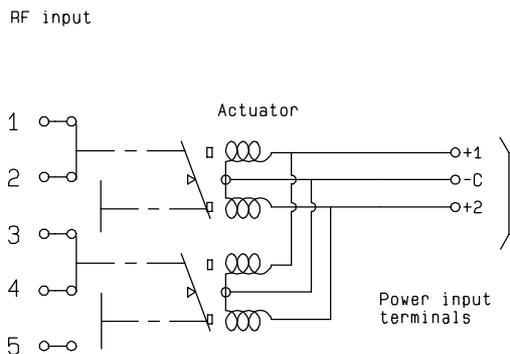
WITH INDICATOR CONTACT
R585 – 4 – 000 / R585 – 4 – 200 / R585 – 4 – 400


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TECHNICAL INFORMATION
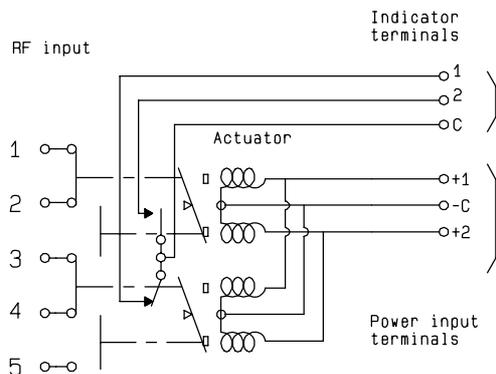
SCHEMATICS OF ELECTRICAL CONNECTION FOR **DP3T** SWITCHES:

LATCHING

WITH SUPPRESSION DIODES
R585 − 3 − 030 / R585 − 3 − 230 / R585 − 3 − 430
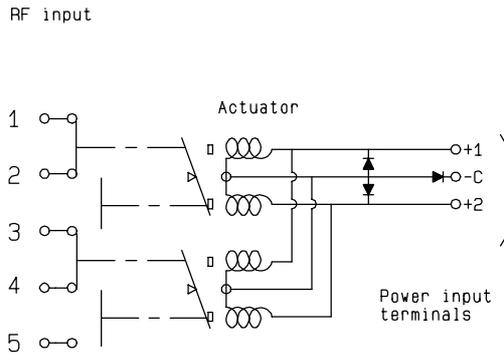
WITH SUPPRESSION DIODES AND INDICATOR CONTACT
R585 − 4 − 030 / R585 − 4 − 230 / R585 − 4 − 430
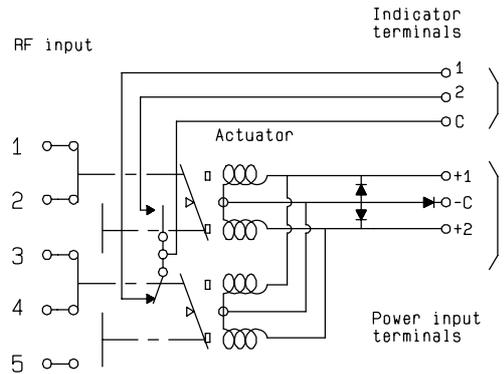
WITH TTL DRIVER
R585 − 3 − 100 / R585 − 3 − 300 / R585 − 3 − 500
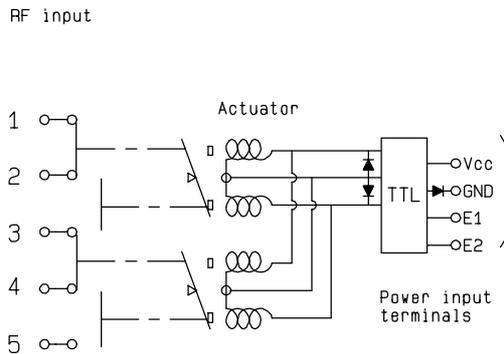
WITH TTL DRIVER AND INDICATOR CONTACT
R585 − 4 − 100 / R585 − 4 − 300 / R585 − 4 − 500
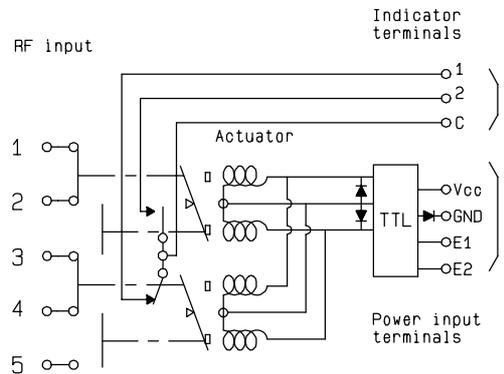
WITH CUT − OFF
R585 − 5 − 000 / R585 − 5 − 200 / R585 − 5 − 400
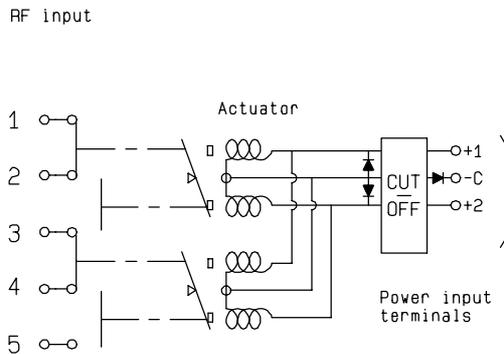
WITH CUT − OFF AND INDICATOR CONTACT
R585 − 6 − 000 / R585 − 6 − 200 / R585 − 6 − 400

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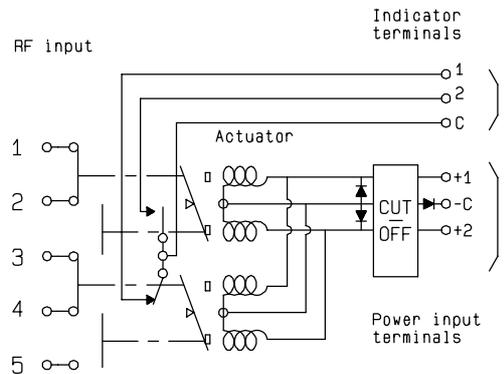
SCHEMATICS OF ELECTRICAL CONNECTION FOR **DP3T** SWITCHES:

LATCHING

WITH CUT – OFF AND TTL
R585 – 5 – 100 / R585 – 5 – 300 / R585 – 5 – 500
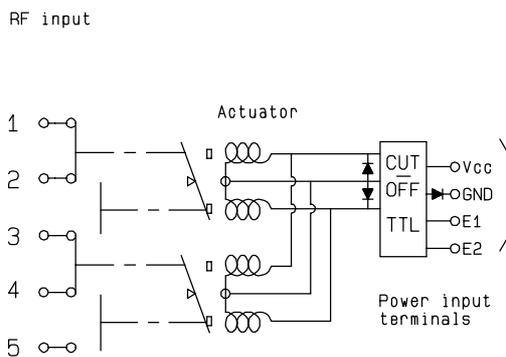
WITH CUT – OFF, TTL AND INDICATOR CONTACT
R585 – 6 – 100 / R585 – 6 – 300 / R585 – 6 – 500
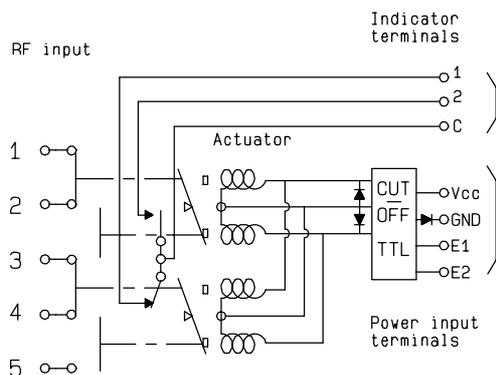
WITH POSITIVE COMMON, NO OPTION
R585 – 3 – 010 / R585 – 3 – 210 / R585 – 3 – 410
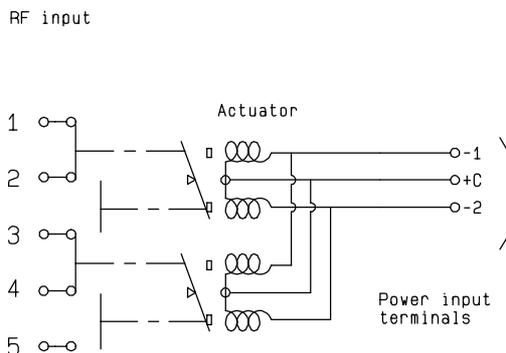
WITH POSITIVE COMMON AND INDICATOR CONTACT
R585 – 4 – 010 / R585 – 4 – 210 / R585 – 4 – 410
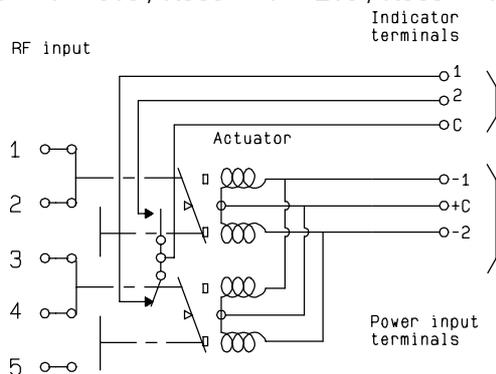
WITH POSITIVE COMMON AND SUPPRESSION DIODES
R585 – 3 – 040 / R585 – 3 – 240 / R585 – 3 – 440
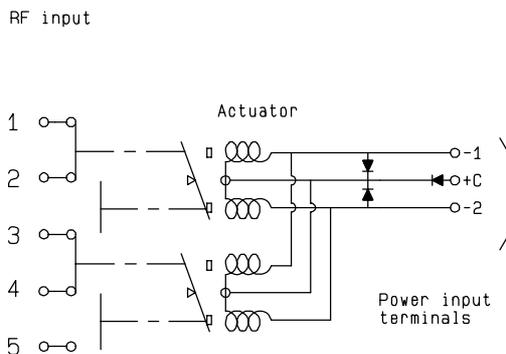
WITH POSITIVE COMMON, SUPRESSION DIODES AND INDICATOR CONTACT
R585 – 4 – 040 / R585 – 4 – 240 /R585 – 4 – 440

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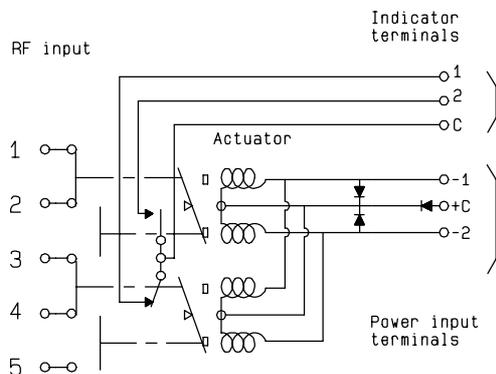
SCHEMATICS OF ELECTRICAL CONNECTION FOR **DP3T** SWITCHES:

LATCHING

WITH POSITIVE COMMON AND CUT–OFF
R585 – 5 – 010 / R585 – 5 – 210 / R585 – 5 – 410
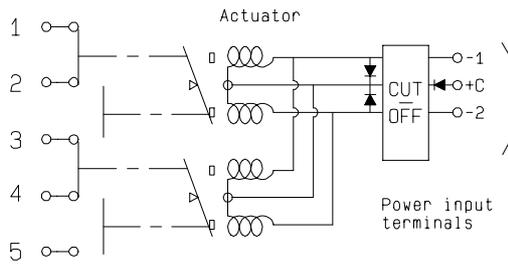
WITH POSITIVE COMMON, CUT–OFF AND INDICATOR CONTACTS
R585 – 6 – 010 / R585 – 6 – 210 / R585 – 6 – 410
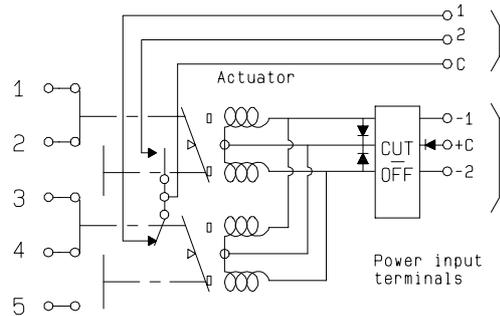
PIN IDENTIFICATION

Type	Pin							
	1	2	3	4	5	6	7	8
Failsafe	+		−					
Failsafe + I C.	+		−			2NO	1NC	C
Failsafe + TTL	E		Gnd	VCC				
Failsafe + I.C. + TTL	E		Gnd	VCC		2NO	1NC	C
Latching Latching + Cut–off	−2 +2	−1 or+1	+C −C					
Latching + I.C. Latching + I.C. + Cut–off	−2 +2	−1 or+1	+C −C			2	1	C
Latching + TTL. Latching + TTL + Cut–off	E2	E1	Gnd	VCC				
Latching + TTL.+ I.C. Latching + TTL + I.C. Cut–off	E2	E1	Gnd	VCC		2	1	C
Normally Open N O + Cut–off	−2 +2	−1 or+1	+C −C					
N O + I.C. N O + I.C. + Cut–off	−2 +2	−1 or+1	+C −C			2	1	C
N O + TTL. N O + TTL + Cut–off	E2	E1	Gnd	VCC				
N O + TTL.+ I.C. N O + TTL + I.C.+ Cut–off	E2	E1	Gnd	VCC		2	1	C