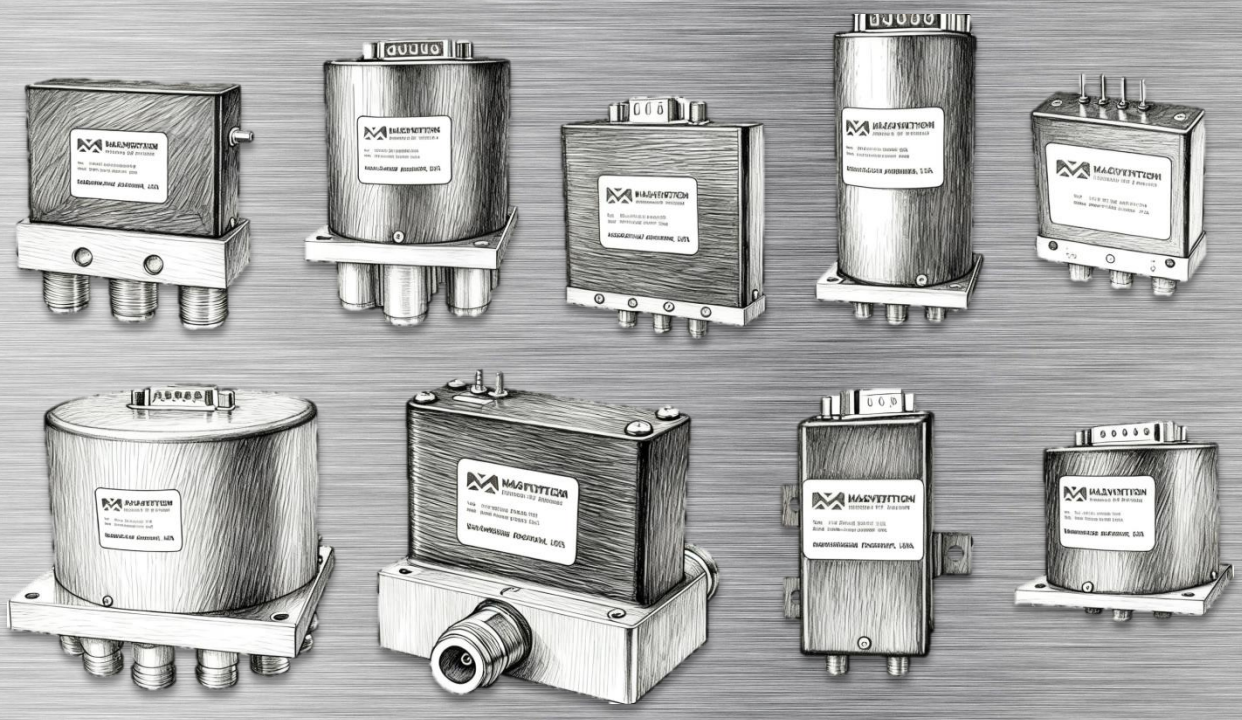
DC - 67GHz

RF COAXIAL SWITCHES

High performance, high reliability at competitive prices



MAGVENTION

ABOUT US

Founded in 2008, Magvention provides products and engineering services for the electrical communication industry.

Magvention is a world leader in coaxial RF switches and micro-magnetic relays. Its main business is in research, development, production, and sales of new generations of RF coaxial switches and micro-magnetic relays. Its technical expertise includes product design and manufacturing in microwave components, relays, microelectronics, and MEMS. Its products lead in performance, size, power consumption, and reliability. Its coaxial switch products provide high performance and high reliability at competitive prices.

The company is headquartered in Suzhou (SIP), China.

V20260101

Numbering Scheme

Example: MC□□-□□□□□□-□□

1. Product Type:
- C1: Coaxial, 1P2T (SPDT)
- C2: Coaxial, 2P3T
- C3: Coaxial, 1P6T
- ……

2. Special Options
- Blank: Standard
- T: With 50Ω termination
- h: High performance
- e: Extended temperature
- p: High power
- 3-18: Number of throws in multi-throw switches

3. Connector Type:
- K: 2.92mm
- S: SMA
- N: N
- U: 2.4mm
- V: 1.85mm
- C: SC
- T: TNC
- R: 4.3-10
- D: 7-16
- P: PCB-mount

4. Frequency Range:
- 12: DC to 12.4GHz
- 18: DC to 18GHz
- 26: DC to 26.5GHz
- 40: DC to 40GHz
- 50: DC to 50GHz
- 67: DC to 67GHz

5. Relay Function
- N: Normally Open
- L: Latching
- F: Failsafe

6. Rated Coil Voltage
12, 18, 24, 28 V

7. Actuator Type:
- 0: With suppression diodes. No TTL/self-cutoff
- 1: TTL
- 2: Self cutoff only (for latching only)
- 3: Self cutoff and TTL (for latching only)
- 4. No suppression diodes. No TTL/self-cutoff
- 5. BCD
- 6. USB

8. Other information
- Blank: No special options
- K: Indicators
- D: "D" connector
- L: Low PIM
- p: Positive Common
- M: Moisture seal
- n: No mounting bracket for MC5/MC7
- s: short, low profile option (MC1,3)
- -a: auto-reset
- -r: reset ALL

Code	Type
MC1	SPDT (S,K,U,V,P)
MC2	SPDT (S,K,U,V) T 2P3T (S,K,U,V)
MC3	1P6T (S,K,U,V)
MC4	SPDT (N,C,T,R,D)
MC5	DPDT (S,K,U,V)

Code	Type
MC6	1P6T (N,C,T,R)
MC7	DPDT (N)
MC8	1P8T(S,K) T
MC9	1P8T (S,K)
MC0	1P10T (S,K) T
MCJ	1P10T (S,K)

Code	Type
MCF	1P6T(S,K,U,V) T
MCL	1P12T (S)
MCH	1P8T (N,C)
MCG	1P12T (N)
MCM	1P12T (S) T
MCR	1P18T (S)

Code	Type
MCD	SPDT (N-Y)
MCV	SPDT (N-V)
MCA	1P4T (N,C,D)
MCK	1P4T (S)
MCP	1P6T (S,P,K) mini
MCQ	1P3T (S)

Ordering

Contact Magvention directly for pricing and delivery information.

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Zip: 215121

Phone: +86 (0512)-69567128
Fax: +86 (0512)-69567125
Email: sales@magvention.com
Web: www.magvention.com

Warranty

Magvention RF switches are warranted against defects in material or workmanship for one full year (12 months) from date of shipment. Magvention's obligation is limited to repair or replacement of defective parts. We assume no liability for defects resulting from improper use, operation beyond ratings or unauthorized repairs. Cosmetic conditions are not covered by this warranty. Magvention is not responsible for consequential damages. Warranty returns require advance authorization. No other warranties are expressed or implied.

For other options not listed here, please contact Magvention sales.

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MC1-S26

SPDT, SMA, DC-26.5GHz

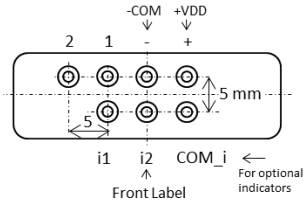
The **MC1** Series features SMA connectors and an operation frequency range of DC to 26.5GHz. This series can be either failsafe or latching type. Available options include TTL, self-cutoff or pulse latching, indicator, and coil suppression, etc.

FAILSAFE/LATCHING

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
	5,000,000 ("h" option)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	70g

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.30	0.25	70
12-18	1.40	0.40	60
18-26.5	1.70	0.70	55

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	200	165	104	96
	Latching	220	124	106	123



Top Solder Pin Arrangements

Note: 1=V1 (or A1), 2=V2 (or A2). A2 (or V2) is unused for Failsafe.

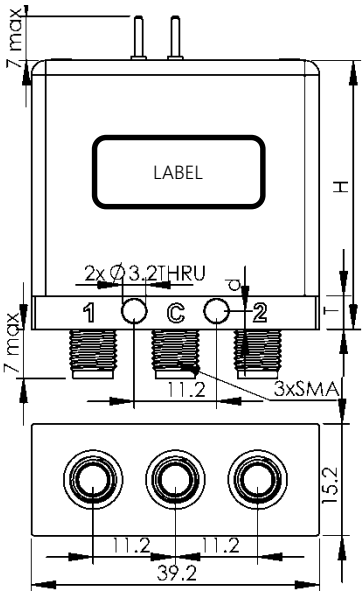
Consult with the factory for the DSUB option.

High Performance Option ("h")			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-1	1.10	0.10	90
DC-6	1.20	0.15	80
6-12	1.25	0.20	75
12-18	1.30	0.25	65
18-26.5	1.60	0.50	60

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

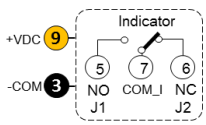
Note: +VDC and -C must be connected to operate.

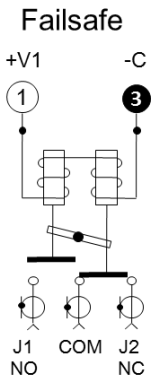


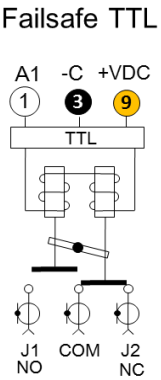
T = 4.6 (SMA)

d = 2.5 (SMA)

H	Solder Pin	DSUB
Standard	36.6	39.6
TTL	36.6	49.6
Indicator	49.6	59.6







Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC1-K40

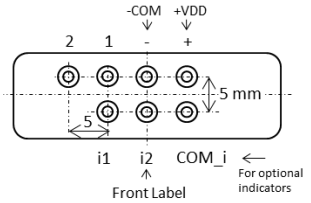
SPDT, K(2.92mm), DC-40GHz

The **MC1** Series features K connectors and an operation frequency range of DC to 40GHz. This series can be either failsafe or latching type. Available options include TTL, self-cutoff or pulse latching, indicator, and coil suppression, etc.

FAILSAFE/LATCHING

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
	5,000,000 ("h" option)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	70g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	200	165	104	96
	Latching	220	124	106	123



Top Solder Pin Arrangements

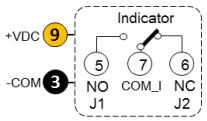
Note: 1=V1 (or A1), 2=V2 (or A2). A2 (or V2) is unused for Failsafe.

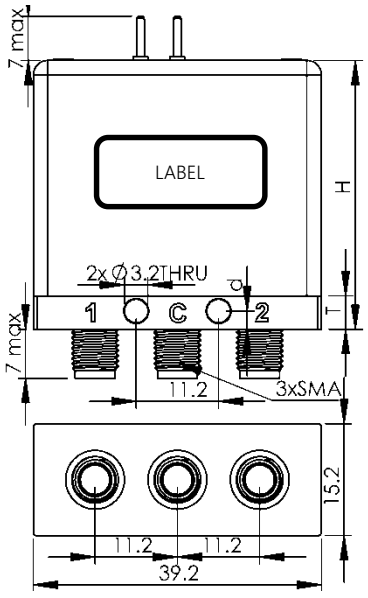
Consult with the factory for the DSUB option.

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.





T = 5.5 (K-type)

d = 2.75 (K-type)

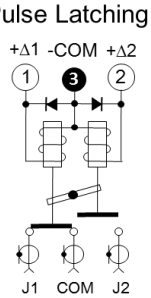
H	Solder Pin	DSUB
Standard	37.5	40.5
TTL	37.5	50.5
Indicator	50.5	60.5

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

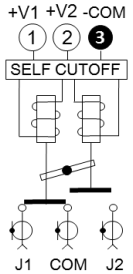
Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.30	0.25	70
12-18	1.40	0.40	60
18-26.5	1.70	0.70	55
26.5-32	1.90	0.80	50
32-40	1.90	0.90	50

High Performance Option ("h")			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-1	1.10	0.10	90
DC-6	1.20	0.15	80
6-12	1.25	0.20	75
12-18	1.30	0.25	65
18-26.5	1.60	0.50	60
26.5-32	1.80	0.50	55
32-40	1.80	0.80	55

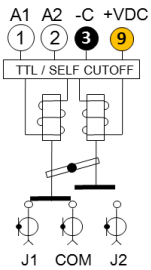
Pulse Latching



Self Cutoff
(latching only)



TTL and Self Cutoff
(latching only)



MC1h-K45-U SPDT, K(2.92mm), DC-45GHz

The **MC1h-K45** Series features 2.92mm connectors and an operation frequency range of DC to 45GHz. This series can be either failsafe or latching type. Available options include TTL, self-cutoff or pulse latching, indicator, and coil suppression, etc. This model has high repeatability (Insertion loss 0.03dB).

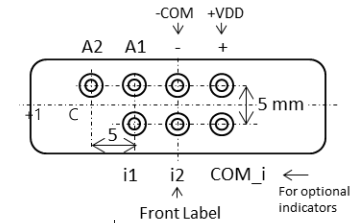
FAILSAFE/LATCHING
High performance
Insertion loss repeatability: 0.03dB

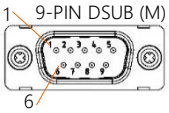
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	70g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	200	165	104	96
	Latching	220	124	106	123

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.30	0.25	70
12-18	1.40	0.40	70
18-26.5	1.50	0.50	60
26.5-32	1.70	0.70	60
32-45	1.80	0.80	60

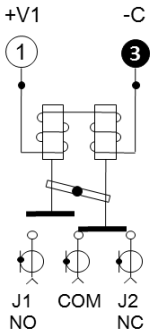
Solder Pins or DSUB 9



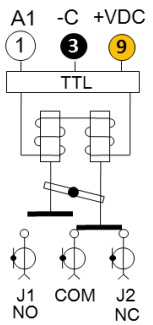


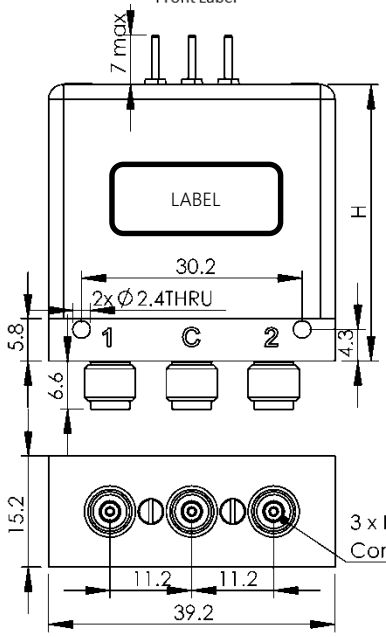
PINOUT	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	A2/V2 (J2-COM)
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Failsafe



Failsafe TTL

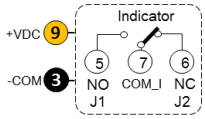




Optional Indicator Specifications

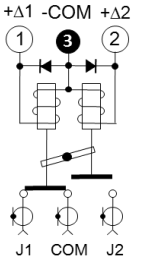
Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

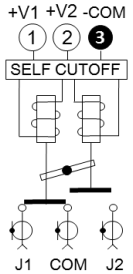


H	Solder Pin	DSUB
Standard	37.8	40.8
TTL	37.8	50.8
Indicator	50.8	60.8

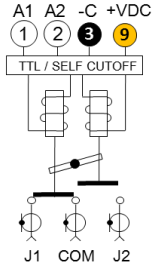
Pulse Latching



Self Cutoff
(latching only)



TTL and Self Cutoff
(latching only)



Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC1-U50

SPDT, U(2.4mm), DC-50GHz

FAILSAFE/LATCHING

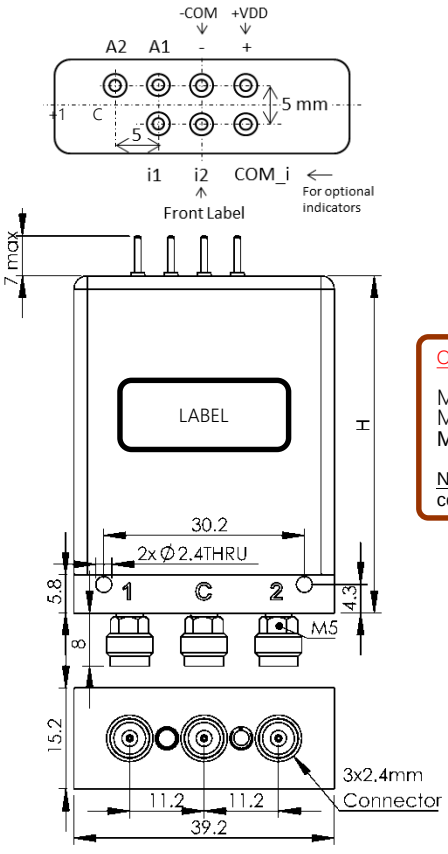
The **MC1-U50** Series features 2.4mm connectors and an operation frequency range of DC to 50GHz. This series can be either failsafe or latching type. Available options include TTL, self-cutoff or pulse latching, indicator, and coil suppression, etc. This model has high repeatability (Insertion loss 0.03dB).

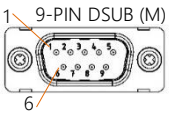
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	70g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	200	165	104	96
	Latching	220	124	106	123

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.30	0.25	70
12-18	1.40	0.40	70
18-26.5	1.70	0.70	70
26.5-32	1.90	0.80	60
32-50	2.0	1.00	60

Solder Pins or DSUB 9



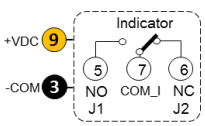


PINOUT	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	A2/V2 (J2-COM)
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Optional Indicator Specifications

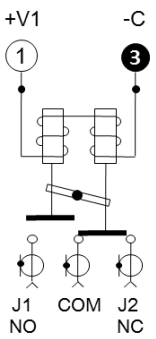
Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

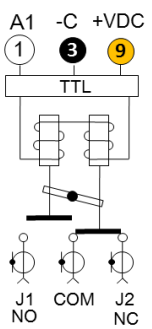


H	Solder Pin	DSUB
Standard	37.8	40.8
TTL	37.8	50.8
Indicator	50.8	60.8

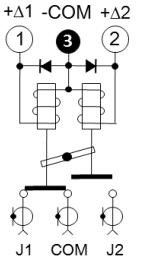
Failsafe



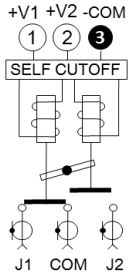
Failsafe TTL



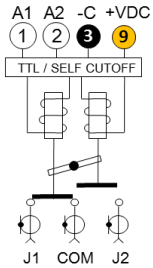
Pulse Latching



Self Cutoff
(latching only)



TTL and Self Cutoff
(latching only)



Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC1-V67

SPDT, V(1.8mm), DC-67GHz

FAILSAFE/LATCHING

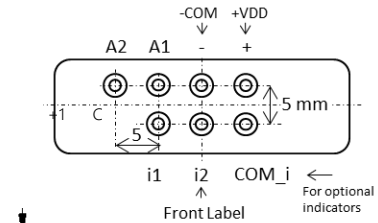
The **MC1-V67** Series features 1.8mm connectors and an operation frequency range of DC to 67GHz. This series can be either failsafe or latching type. Available options include TTL, self-cutoff or pulse latching, indicator, and coil suppression, etc.

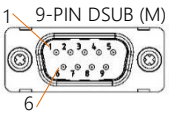
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	70g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	200	165	104	96
	Latching	220	124	106	123

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-18	1.40	0.40	60
18-26.5	1.70	0.70	55
26.5-32	1.90	0.80	50
32-50	2.00	1.00	50
50-67	2.50	1.50	45

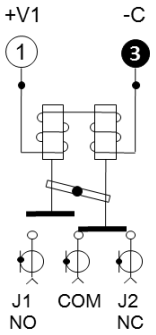
Solder Pins or DSUB 9



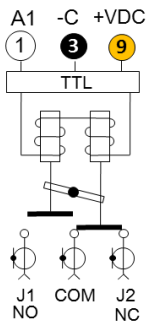


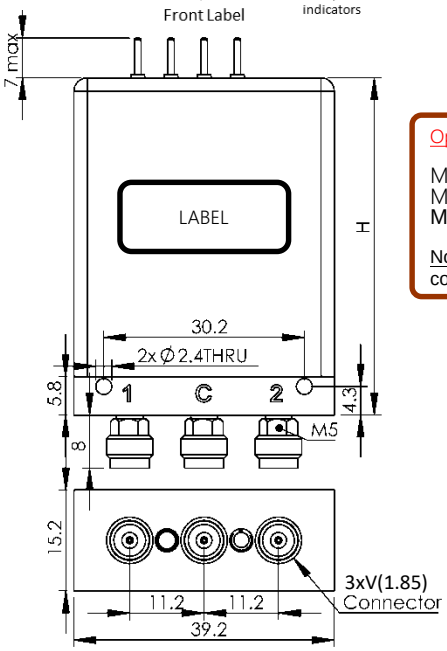
PINOUT	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	A2/V2 (J2-COM)
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Failsafe



Failsafe TTL

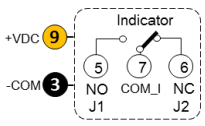




Optional Indicator Specifications

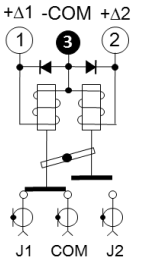
Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

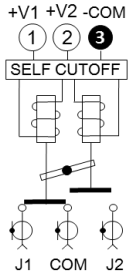


H	Solder Pin	DSUB
Standard	37.8	40.8
TTL	37.8	50.8
Indicator	50.8	60.8

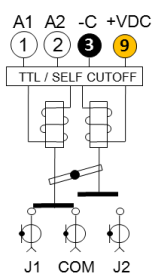
Pulse Latching



Self Cutoff
(latching only)



TTL and Self Cutoff
(latching only)



Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC1–s (mini)

SPDT, SMA, short, DC-26.5GHz

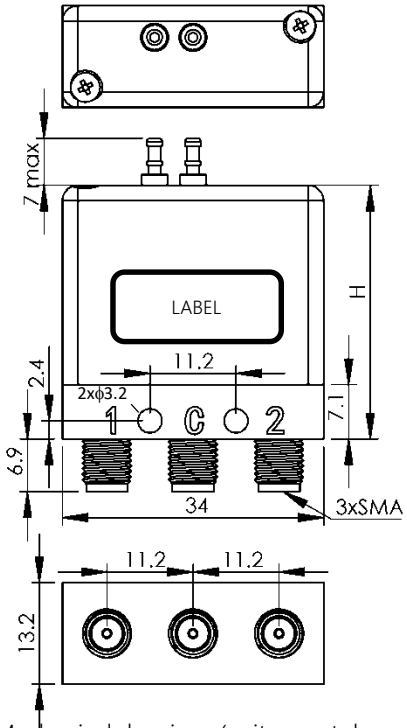
FAILSAFE/LATCHING

The **MC1 (-s)** Series features SMA connectors and an operation frequency range of DC to 26.5GHz. This model option has a small profile. The series can be either failsafe or latching type. Available options include TTL, self-cutoff or pulse latching, indicator, and coil suppression, etc.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
	5,000,000 (“h” option)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	50g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	153	165	73	86
	Latching	220	110	106	123

- Contact company if reduced coil current is required. Other coil voltage options are available upon request.



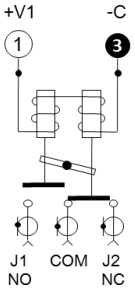
H = 33.1 mm

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

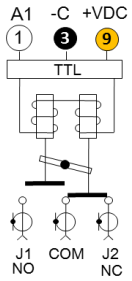
Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.30	0.25	70
12-18	1.40	0.40	60
18-26.5	1.70	0.70	55

Higher frequency ranges are also available upon request..

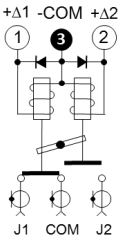
Failsafe



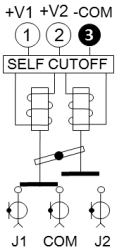
Failsafe TTL



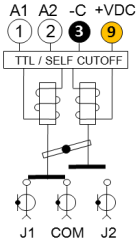
Pulse Latching



Self Cutoff
(latching only)



TTL and Self Cutoff
(latching only)



MC1-PCB

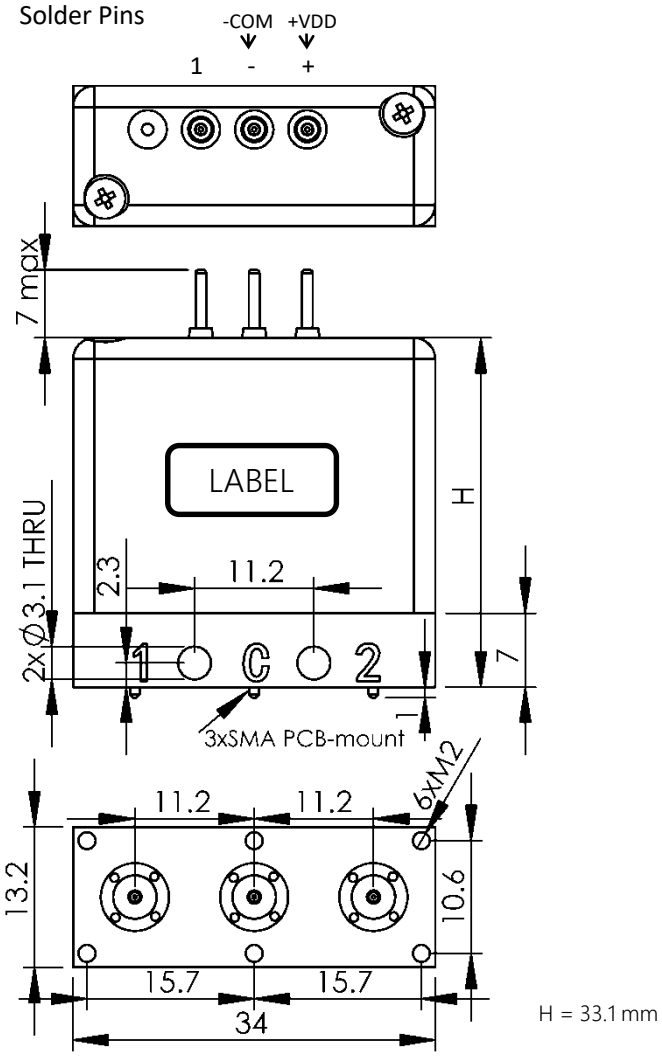
SPDT, PCB-mount, short, DC-18GHz

The **MC1-S18 (-s)** Series features SMA connectors and an operation frequency range of DC to 18GHz. This series can be either failsafe or latching type. Available options include TTL, self-cutoff or pulse latching, indicator, and coil suppression, etc.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	50g

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.40	0.40	70
12-18	1.50	0.50	60

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	153	165	73	86
	Latching	220	110	106	123



H = 33.1 mm

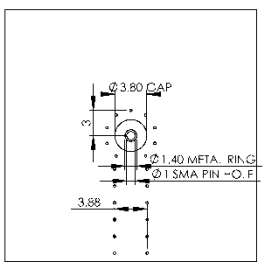
Mechanical drawings (unit: mm, tolerance +/-0.5mm).

Recommended PCB layout.

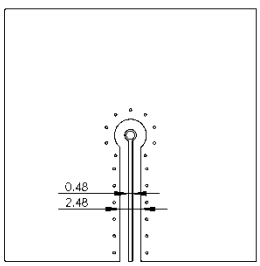
Material: Rogers 4350, 40mil (1mm),

3 layers:
Top and bottom: Ground plans;
Middle: Signal.

Open ϕ=1mm hole for SMA pins.



Top and bottom.

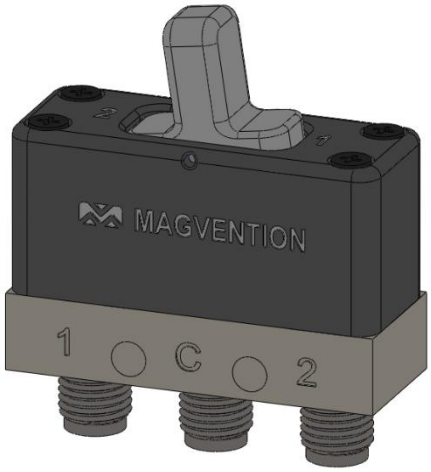


Middle signal layer.

SPDT, SMA, DC-26.5GHz

Manual Operation

The **MC1 (-s)** Series features SMA connectors and an operation frequency range of DC to 26.5GHz. This model option has a small profile.

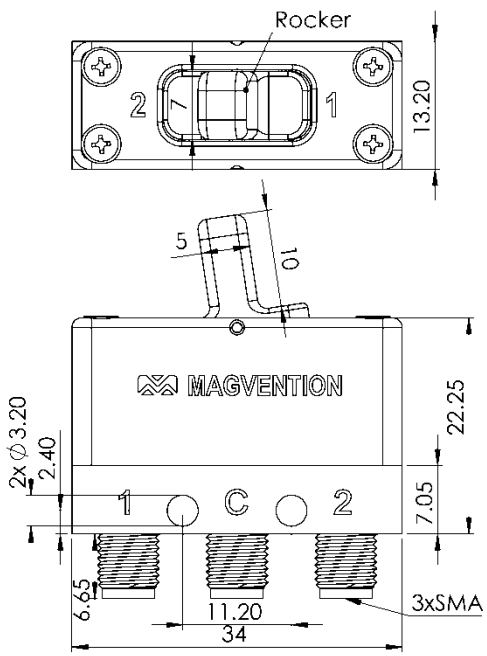


Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	Manual operation
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	40g

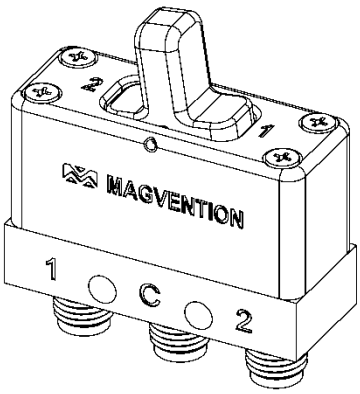
Manual Operation	Port 1 - C	Port 2 - C
Push Left Side	Open	Closed
Push Right Side	Closed	Open

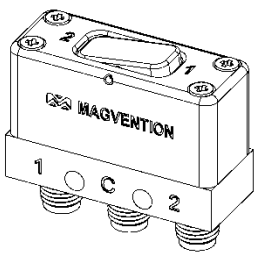
Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.30	0.25	70
12-18	1.40	0.40	60
18-26.5	1.70	0.70	55

Higher frequency ranges are also available upon request..



Mechanical drawings (unit: mm, tolerance +/-0.5mm).





A low-profile version is also available upon request.

MC2-S

SPDT (Terminated or un-Terminated), SMA

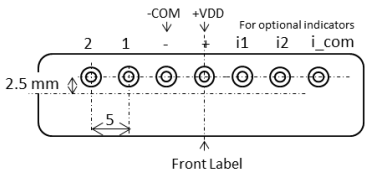
FAILSAFE/LATCHING

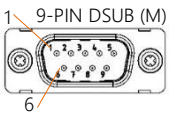
The **MC2-S** Series features SMA connectors with or without internal termination and an operation frequency range of DC to 26.5 GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

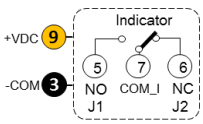
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	88g

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.30	0.25	70
12-18	1.40	0.40	60
18-26.5	1.80	0.80	55

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	400	330	207	193
	Latching	440	248	211	246







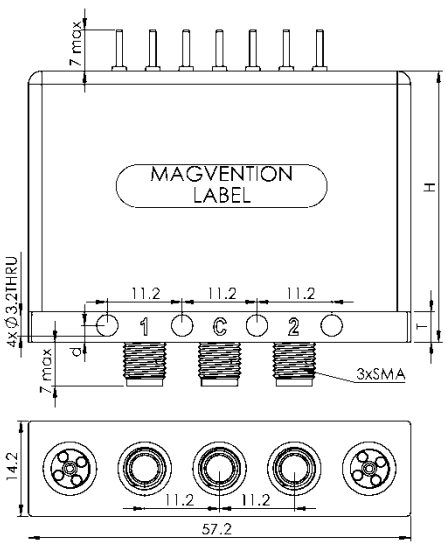
Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.

Solder Pins or DSUB 9

PINOUT	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI



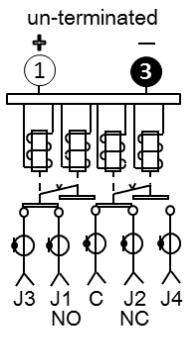


Fig. 1

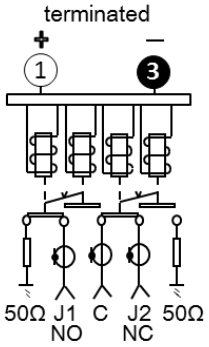


Fig. 2

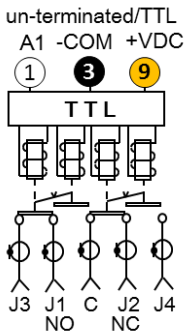


Fig. 3

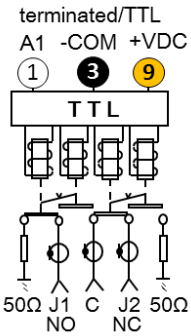


Fig. 4

T = 4.55 (SMA)
d = 2.5

H (max)	Solder Pin	DSUB
Standard	40.6	44.6
TTL	40.6	52.6
Indicator	40.6	52.6

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC2-K

SPDT (Terminated or un-Terminated), K

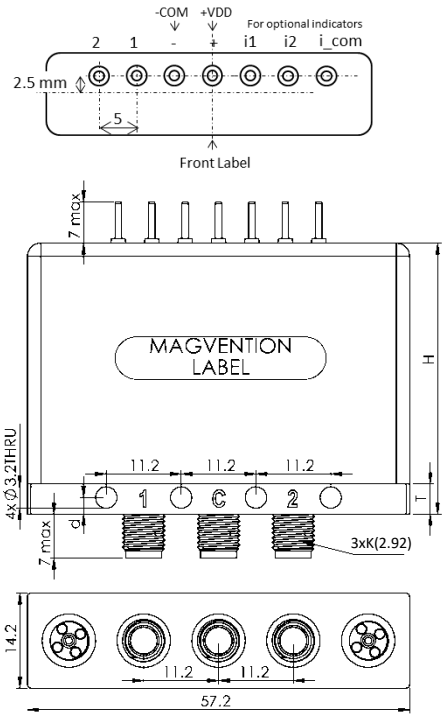
FAILSAFE/LATCHING

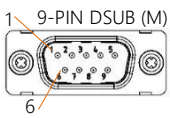
The MC2-K Series features K connectors with or without internal termination and an operation frequency range of DC to 40 GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

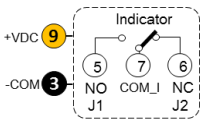
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	88g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	400	330	207	193
	Latching	440	248	211	246

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	70
6-12	1.30	0.25	70
12-18	1.40	0.40	60
18-26.5	1.70	0.70	55
26.5-32	1.90	0.80	50
32-40	2.00	1.30	50







Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

Solder Pins or DSUB 9

PINOUT	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	A2/V2 (J2-COM)
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

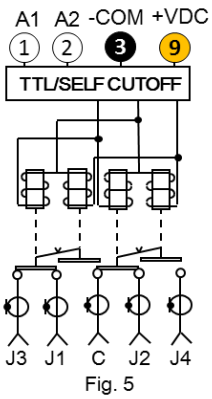


Fig. 5

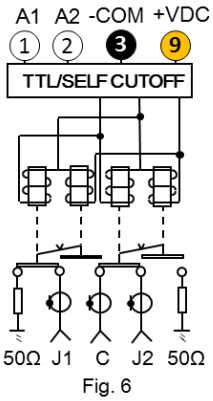


Fig. 6

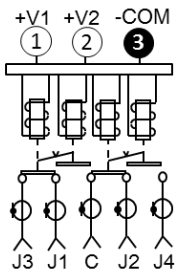


Fig. 7

T = 6.0 (K-type)
d = 2.5

H (max)	Solder Pin	DSUB
Standard	42	46
TTL	42	54
Indicator	42	54

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC2T-U50

SPDT (Terminated or un-Terminated), U2.4

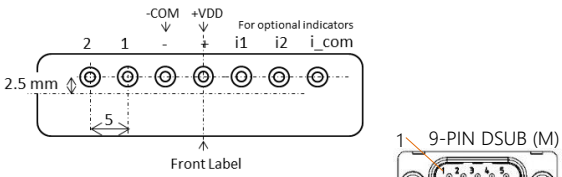
FALISAFE/LATCHING

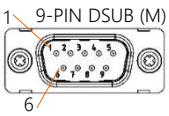
The **MC2T-U50** Series features U (2.4mm) connectors with or without internal termination and an operation frequency range of DC to 50 GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	88g

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-18	1.50	0.50	60
18-32	1.90	0.80	50
32-40	2.00	1.00	50
40-50	2.20	1.30	50

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	400	330	207	193
	Latching	440	248	211	246





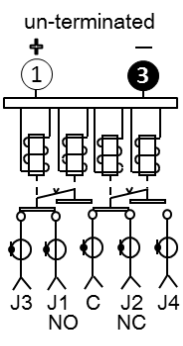


Fig. 1

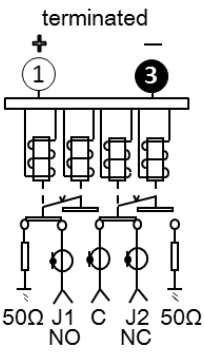


Fig. 2

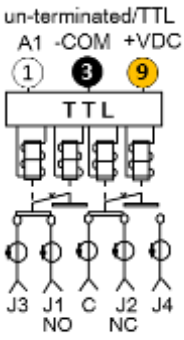


Fig. 3

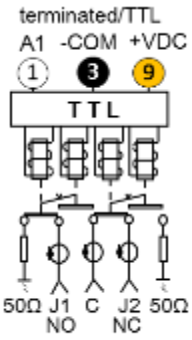
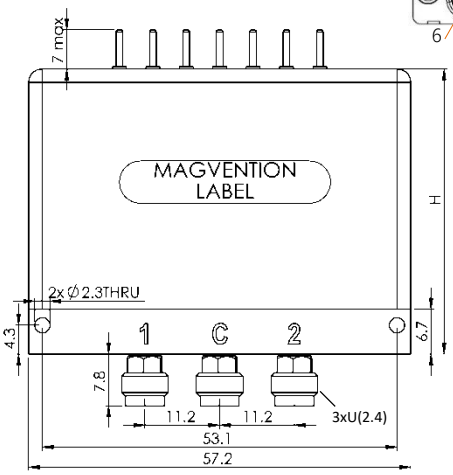
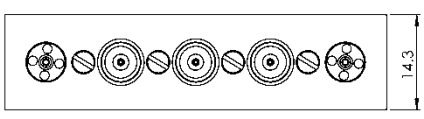


Fig. 4



PINOUT	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	A2/V2 (J2-COM)
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI



H (max)	Solder Pin	DSUB
Standard	42.7	46.7
TTL	42.7	54.7
Indicator	42.7	54.7

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

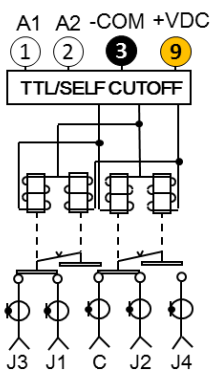


Fig. 5

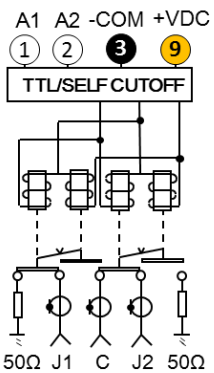


Fig. 6

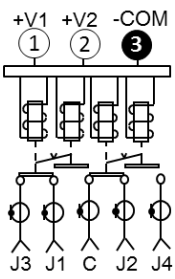


Fig. 7

MC2T-V67

SPDT (Terminated or un-Terminated), V1.85

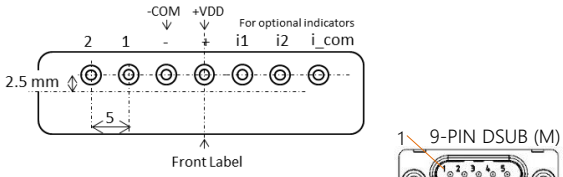
FALISAFE/LATCHING

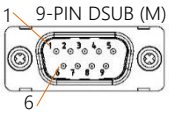
The **MC2T-V67** Series features V (1.85mm) connectors with or without internal termination and an operation frequency range of DC to 67 GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

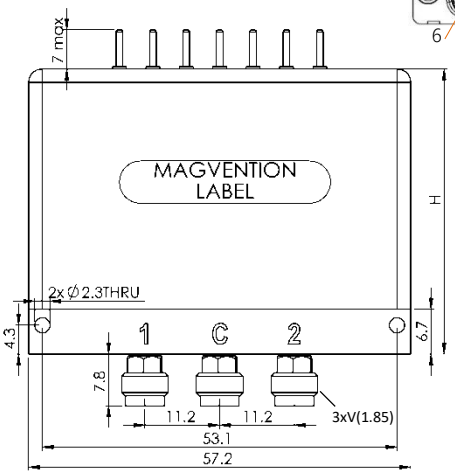
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	88g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	400	330	207	193
	Latching	440	248	211	246

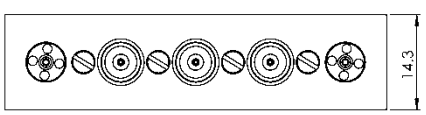
Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-18	1.40	0.40	60
18-26.5	1.70	0.70	55
26.5-32	1.90	0.80	50
32-50	2.00	1.00	50
50-67	2.50	1.50	45







PINOUT	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	A2/V2 (J2-COM)
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI



H (max)	Solder Pin	DSUB
Standard	42.7	46.7
TTL	42.7	54.7
Indicator	42.7	54.7

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

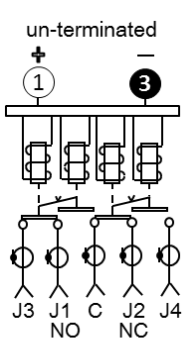


Fig. 1

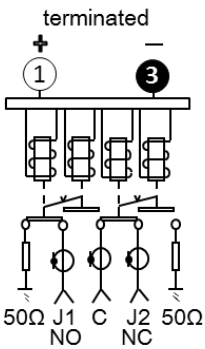


Fig. 2

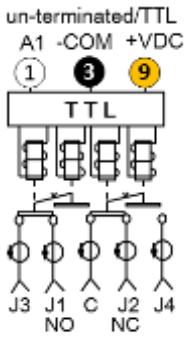


Fig. 3

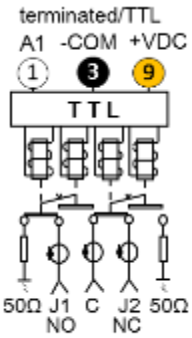


Fig. 4

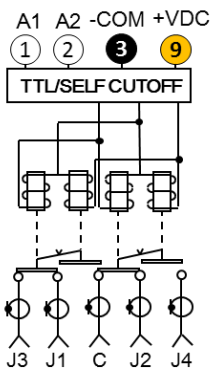


Fig. 5

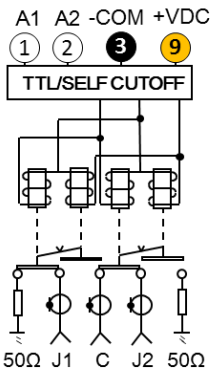


Fig. 6

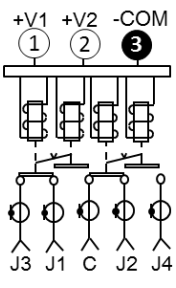


Fig. 7

MC3-S22 1P6T, SMA, DC-22GHz

MC3n: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN

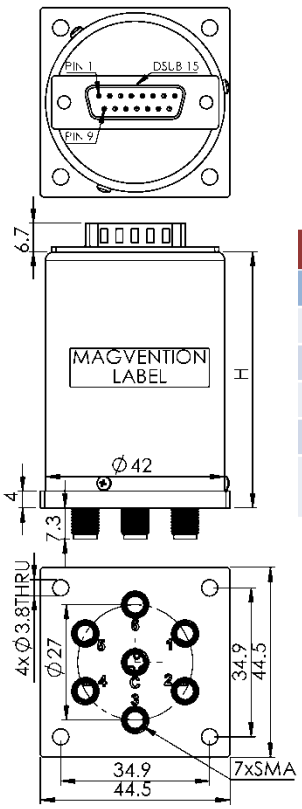
The MC3-S22 Series features SMA connectors and an operation frequency range of DC to 22 GHz. This series is of normally open type. Options include TTL, coil suppression diodes, indicators etc. The product is typically supplied with a 15-pin male D-sub control interface.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	190g

Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	290	190	150	140

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	60
12-18	1.5	0.5	60
18-22	1.5	0.6	60



Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDC

PIN 8-14: For optional INDICAOTRS only.

Pin 1-6: The corresponding control signal inputs.
PIN 8-15: For optional INDICAOTRS only.

STANDARD Model		
H	Solder Pin	DSUB
Standard	54	60
TTL	54	70
Indicator	58	70

"-s" Short Model		
H	Solder Pin	DSUB
Standard	44	50
TTL	44	60
Indicator	48	60

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN

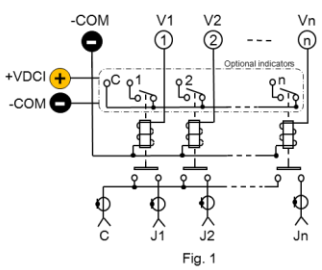


Fig. 1

NORMALLY OPEN with TTL

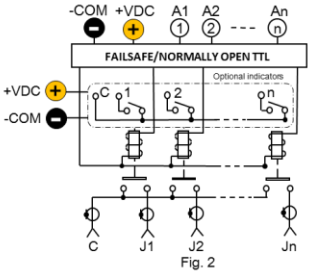


Fig. 2

MC3-S26 1P6T, SMA, DC-26.5GHz

MC3n: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN

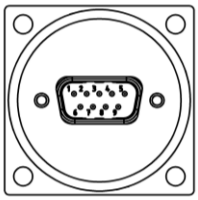
The MC3-S26 Series features SMA connectors and an operation frequency range of DC to 26.5 GHz. This series is of normally open type. Options include TTL, coil suppression diodes, indicators etc. The product is typically supplied with a 15-pin male D-sub control interface.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	190g

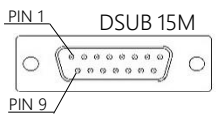
Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	290	190	150	140

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	60
12-18	1.5	0.5	60
18-26.5	1.5	0.5	60



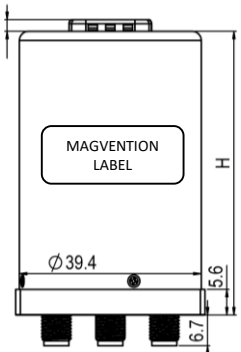
Top DSUB arrangements.



Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.



1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

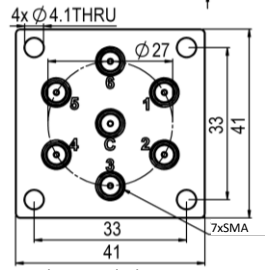
Note: "Blank" represents the unused RF and corresponding control ports.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDC

PIN 8-14: For optional INDICAOTRS only.

PIN 1-6: The corresponding control signal inputs.
PIN 8-15: For optional INDICAOTRS only.



STANDARD Model		
H	Solder Pin	DSUB
Standard	56.6	61.6
TTL	56.6	71.6
Indicator		

"-s" Short Model		
H	Solder Pin	DSUB
Standard	46.6	51.6
TTL	46.6	61.6
Indicator		

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN

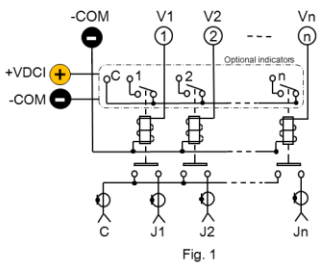


Fig. 1

NORMALLY OPEN with TTL

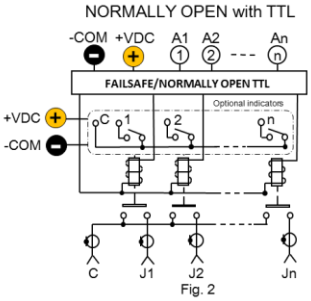


Fig. 2

MC3-K40 1P6T, K, DC-40GHz

MC3n: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN

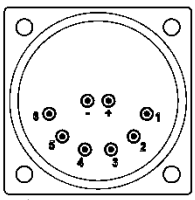
The **MC3-K40** Series features K connectors and an operation frequency range of DC to 40 GHz. This series is of normally open type. Options include TTL, coil suppression diodes, indicators etc. The product is typically supplied with a 15-pin male D-sub control interface.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	190g

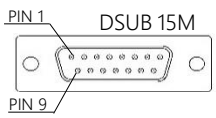
Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	290	190	150	140

Other options are available upon request.

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	60
12-18	1.5	0.5	60
18-26.5	1.9	0.8	50
26.5-40	2	1	50



Top DSUB arrangements.



Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

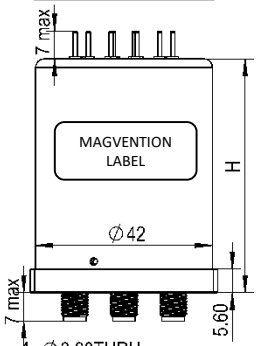
Note: +VDC and -C must be connected to operate.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDC

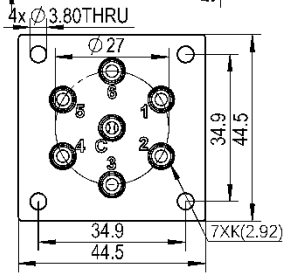
PIN 8-14: For optional INDICAOTRS only.

PIN 1-6: The corresponding control signal inputs.
PIN 8-15: For optional INDICAOTRS only.



1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.



STANDARD Model		
H	Solder Pin	DSUB
Standard	55.6	61.6
TTL	55.6	71.6
Indicator	59.6	71.6

"-s" Short Model		
H	Solder Pin	DSUB
Standard	45.6	51.6
TTL	45.6	61.6
Indicator	49.6	61.6

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN

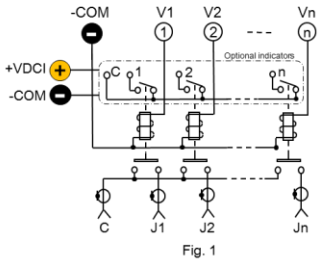


Fig. 1

NORMALLY OPEN with TTL

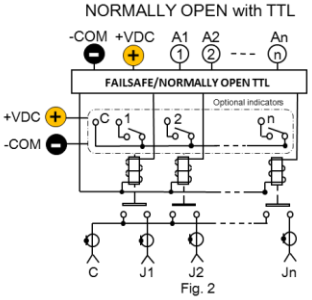


Fig. 2

MC3 –U50

1P6T, U (2.4mm), DC-50GHz

MC3n-UxxNxx-s: n=3-6 (e.g., n=6 for 1P6T), short (low profile version)

Normally Open

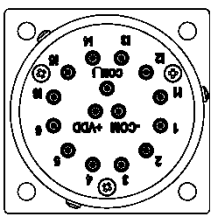
The **MC3-U50** Series features 2.4mm connectors and an operation frequency range of DC to 50 GHz. This series is of normally open type. Options include TTL, coil suppression diodes, indicators etc. The product is typically supplied with a 15-pin male D-sub control interface.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	190g

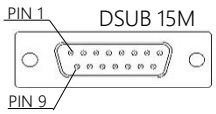
Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	230	150	120	110

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	70
12-18	1.5	0.5	60
18-26.5	1.9	0.8	55
26.5-40	2.0	1.0	50
40-50	2.1	1.2	50

Top Solder Pin arrangements.



Top DSUB arrangements.



Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

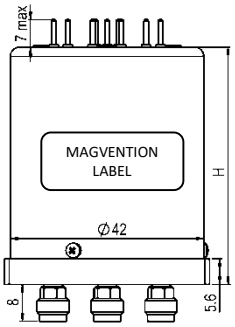
Note: +VDC and -C must be connected to operate.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDC

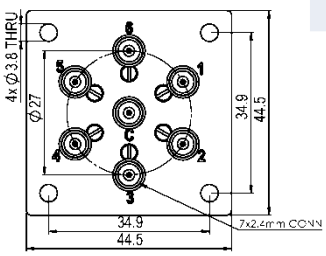
PIN 8-14: For optional INDICAOTRS only.

PIN 1-6: The corresponding control signal inputs.
PIN 8-15: For optional INDICAOTRS only.



1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.



"-s" Short Model		
H	Solder Pin	DSUB
Standard	45.6	51.6
TTL	45.6	61.6
Indicator	49.6	61.6

NORMALLY OPEN

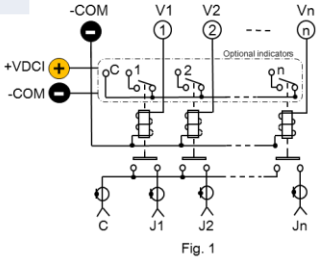


Fig. 1

NORMALLY OPEN with TTL

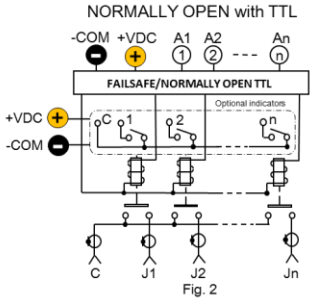


Fig. 2

Mechanical drawings (unit: mm, other tolerance +/-0.5mm).

MCP-S18

mini-1P6T, SMA or PCB, DC-18GHz

MCPn: n=3-6 (e.g., n=6 for 1P6T)

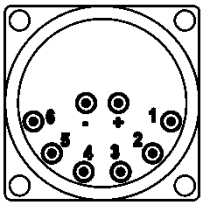
NORMALLY OPEN

The **MCP-S18** Series is a miniature 1P6T model featuring SMA connectors and an operation frequency range of DC to 18 GHz. This series is of normally open type. Options include TTL, coil suppression diodes, indicators etc. The product is typically supplied with a 15-pin male D-sub control interface.

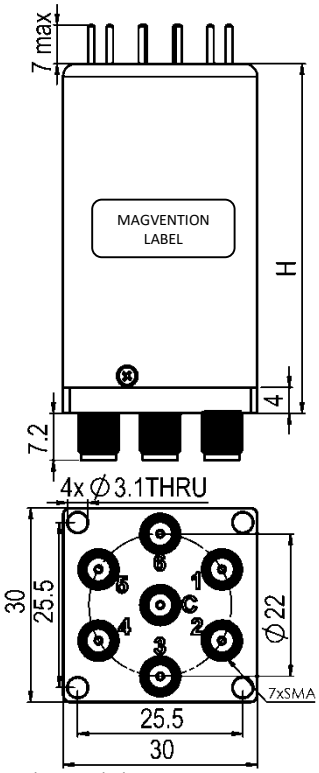
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	90 g

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	60
12-18	1.5	0.5	60

Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	290	190	150	140



Top Solder Pin Arrangements



H = 54 mm

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

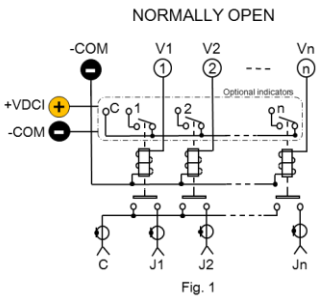


Fig. 1

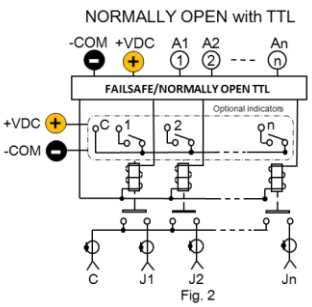


Fig. 2

MCP-K40

mini-1P6T, K (2.92mm), DC-40GHz

MCPn: n=3-6 (e.g., n=6 for 1P6T)

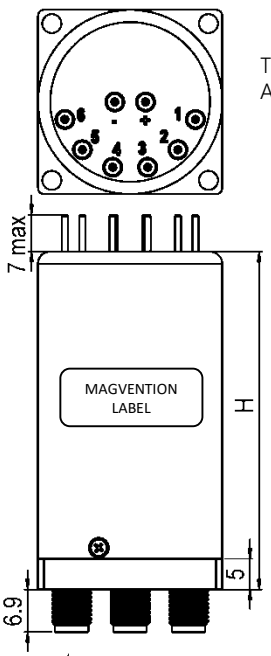
NORMALLY OPEN

The **MCP-K40** Series is a miniature 1P6T model featuring K (2.92) connectors and an operation frequency range of DC to 40 GHz. This series is of normally open type. Options include TTL, coil suppression diodes, indicators etc. The product is typically supplied with a 15-pin male D-sub control interface.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	90 g

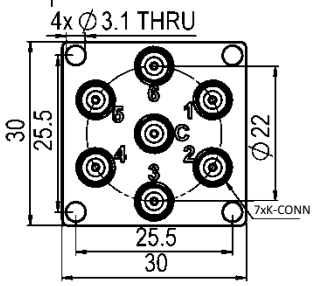
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	60
12-18	1.5	0.5	60
18-26.5	1.8	0.8	50
26.5-40	2	1	50

Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	290	190	150	140



1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.



H = 55 mm

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

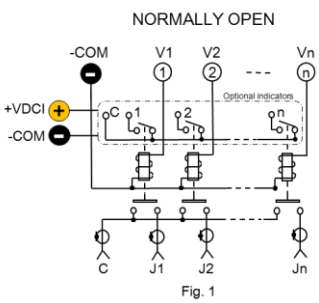


Fig. 1

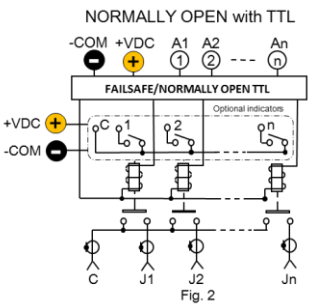


Fig. 2

MCK-S18

1P4T, SMA, DC-18GHz

Normally Open

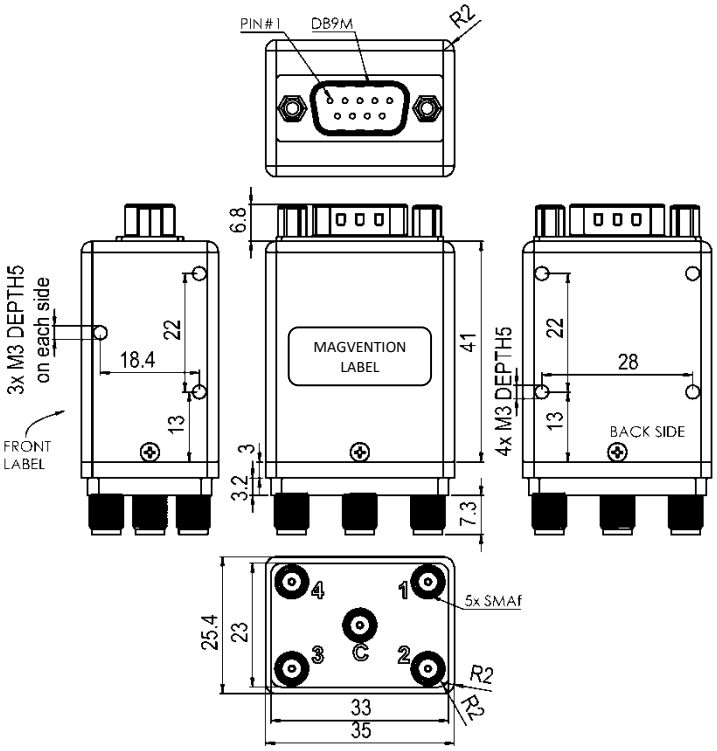
The **MCK4-S18** Series features SMA connectors and an operation frequency range of DC to 18 GHz. This series is of normally open type. Options include TTL, coil suppression diodes, indicators etc. The product is typically supplied with a 9-pin male D-sub control interface.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1,000,000 (Standard)
Vibration (operating)	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	100g

Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	300	210	170	150

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.2	0.2	80
3-6	1.3	0.3	70
6-12	1.4	0.4	60
12-18	1.5	0.5	60

Top DSUB Arrangements



Mechanical drawings (unit: mm, other tolerance +/-0.5mm).

NORMALLY OPEN 9-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An or Vn (Jn-COM)
7	-COM (GND)
8	unused
9	+VDC

Pin 1-6: The corresponding control signal inputs.

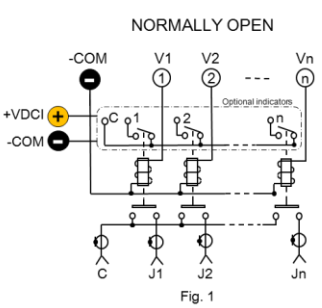


Fig. 1

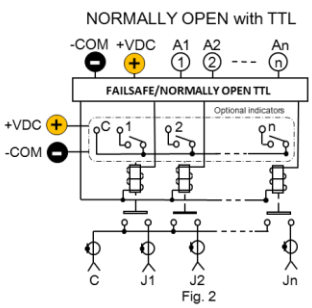


Fig. 2

MC4-N12

SPDT, N, DC-12.4GHz

FAILSAFE/LATCHING

The **MC4-N12** Series features N-type connectors and an operation frequency range of DC to 12.4GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	260g

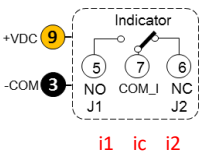
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-2	1.15	0.20	80
2-4	1.20	0.25	80
4-12.4	1.50	0.50	60

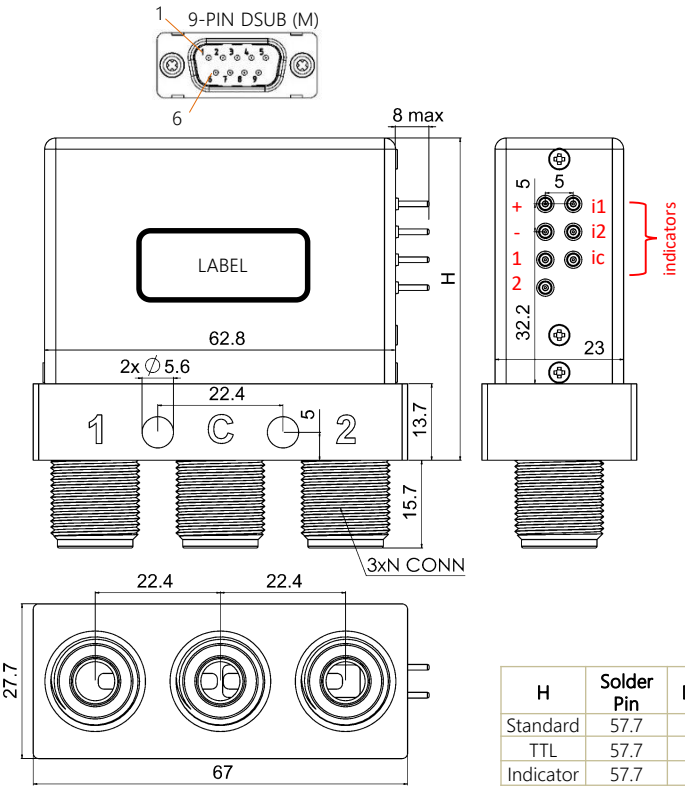
Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	275	170	130	115
	Latching	100	80	70	60

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.

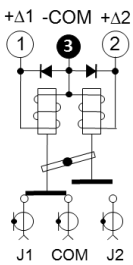




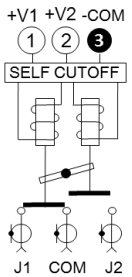
H	Solder Pin	DSUB
Standard	57.7	71.7
TTL	57.7	71.7
Indicator	57.7	71.7

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

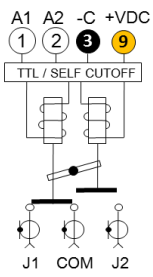
Pulse Latching



Self Cutoff (latching only)

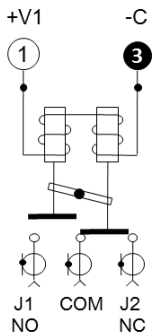


TTL and Self Cutoff (latching only)

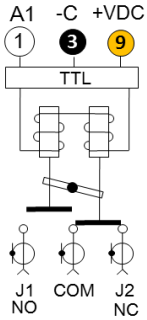


DSUB	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Failsafe



Failsafe TTL



MC4p-N12 SPDT, N (high power), DC-12.4GHz

FAILSAFE/LATCHING

The **MC4p-N12** Series features N-type connectors (high power) and an operation frequency range of DC to 12.4GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	260g

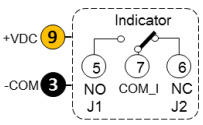
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-2	1.20	0.20	80
2-4	1.30	0.30	70
4-8	1.40	0.40	60
8-12.4	1.50	0.50	50

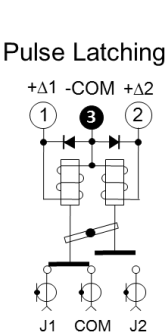
Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	275	170	130	115
	Latching	100	80	70	60

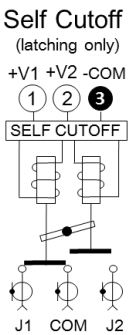
Optional Indicator Specifications

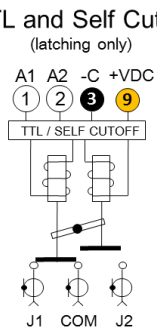
Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

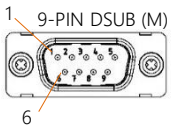
Note: +VDC and -C must be connected to operate.

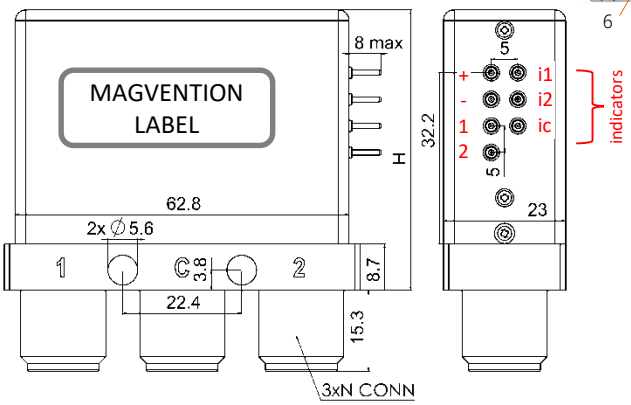




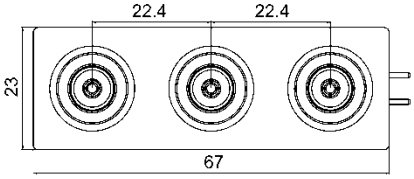




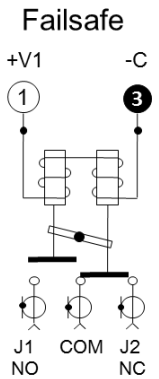


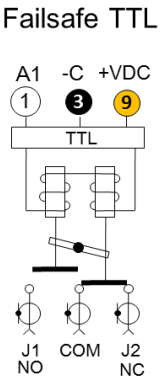


DSUB	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI



H	Solder Pin	DSUB
Standard	52.7	66.7
TTL	52.7	66.7
Indicator	52.7	66.7





Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC4p-T12 SPDT, TNC (high power), DC-12.4GHz

FAILSAFE/LATCHING

The **MC4p-T12** Series features TNC-type connectors and an operation frequency range of DC to 12.4GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	260g

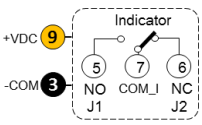
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-2	1.15	0.20	80
2-4	1.20	0.25	80
4-12.4	1.50	0.50	60

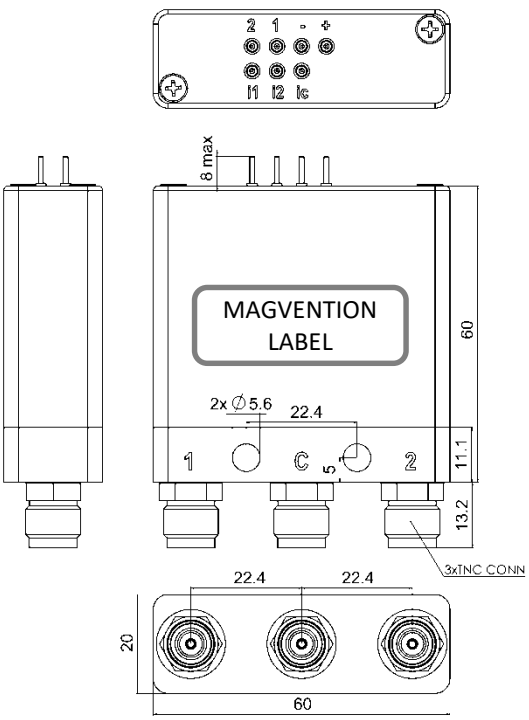
Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	275	170	130	115
	Latching	100	80	70	60

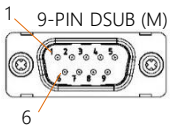
Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.



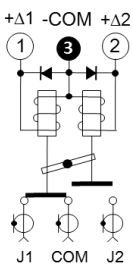




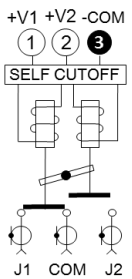
DSUB	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

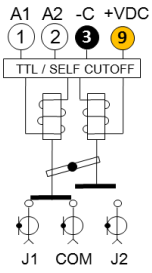
Pulse Latching



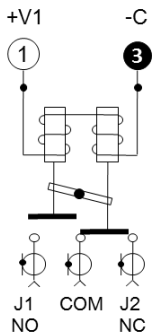
Self Cutoff (latching only)



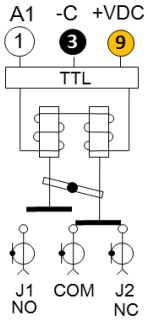
TTL and Self Cutoff (latching only)



Failsafe



Failsafe TTL



MC4-C06 SPDT, SC, DC-6GHz

FAILSAFE or LATCHING

The **MC4-C06** Series features SC-type connectors and an operation frequency range of DC to 6GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

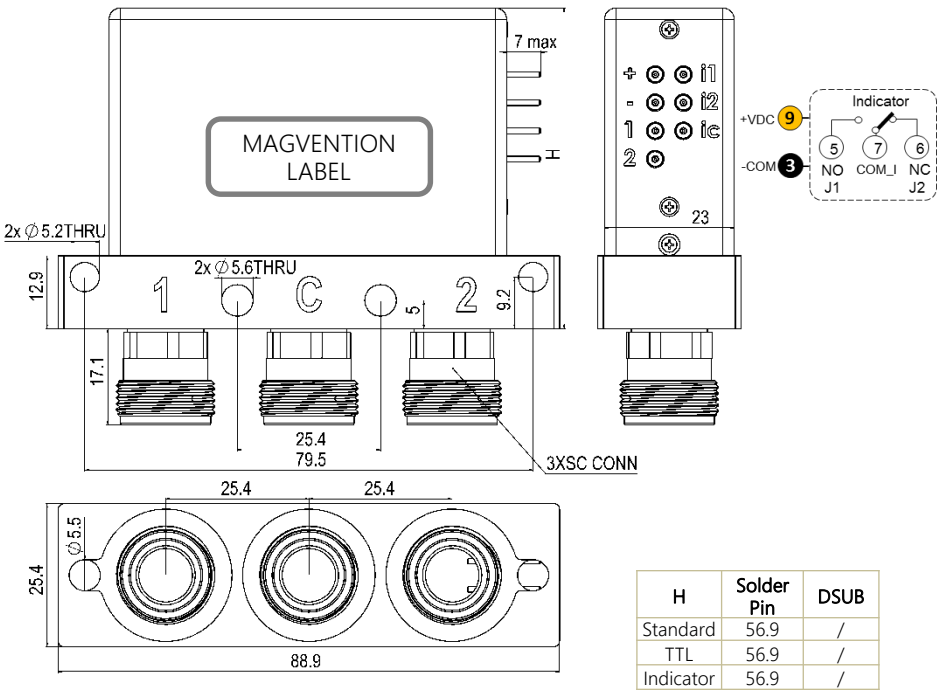
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range (operating)	–25°C to +65°C (Standard)
	–55°C to +85°C ("e" option)
Temperature (storage)	–55° C to +70° C
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (7 max -operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	280g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	275	170	130	115
	Latching	100	80	70	60

Photo shown is a standard MC4-N-type.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-2	1.20	0.20	70
2-4	1.30	0.30	60
4-6.5	1.50	0.50	60

Note: The listed RF results are for the model with standard power. Consult with the company for the high-power versions.



H	Solder Pin	DSUB
Standard	56.9	/
TTL	56.9	/
Indicator	56.9	/

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16W

Note: +VDC and -C must be connected to operate.

Solder Pins

FAILSAFE	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

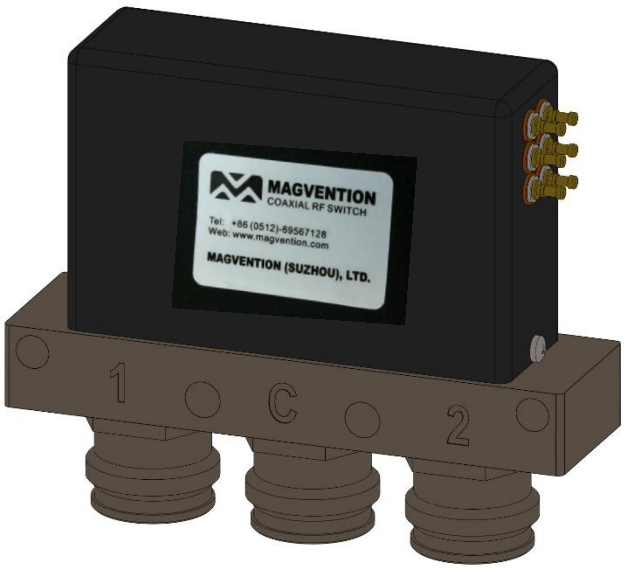
LATCHING	
Pin No.	PINOUT
1	A1/V1 (J1-COM)
2	A2/V2 (J2-COM)
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC4-R08 SPDT, 4.3-10, DC-8GHz

FAILSAFE or LATCHING

The **MC4-R08** Series features 4.3-10-type connectors and an operation frequency range of DC to 8GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.



Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	280g

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.30	0.30	70
3-4	1.40	0.40	60
4-6	1.50	0.50	60
6-8	1.70	0.70	50

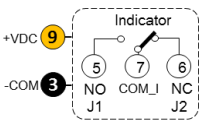
Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	275	170	130	115
	Latching	100	80	70	60

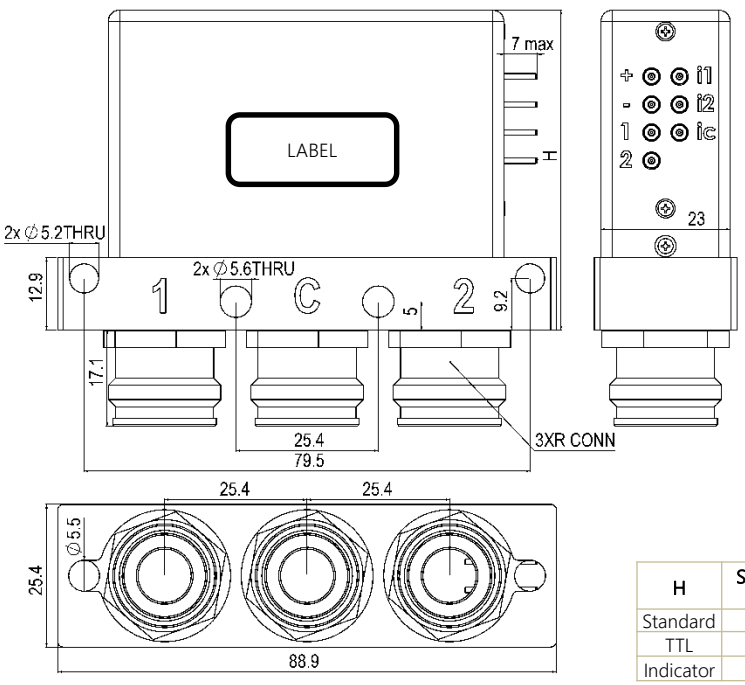
Solder Pin Assignments are marked on the product.

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

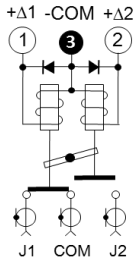




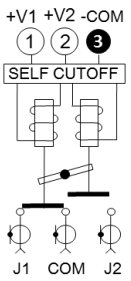
H	Solder Pin	DSUB
Standard	56.9	/
TTL	56.9	/
Indicator	56.9	/

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

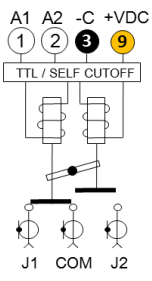
Pulse Latching



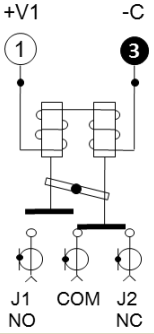
Self Cutoff (latching only)



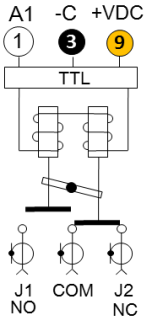
TTL and Self Cutoff (latching only)



Failsafe



Failsafe TTL



MC4-D04 SPDT, Din 7-16, DC-4GHz

FAILSAFE or LATCHING

The **MC4-D04** Series features Din 7-16-type connectors and an operation frequency range of DC to 4GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	50msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	700g

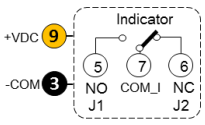
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.30	0.30	70
3-4	1.40	0.40	60

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	270	220	150	110
	Latching	310	250	170	130

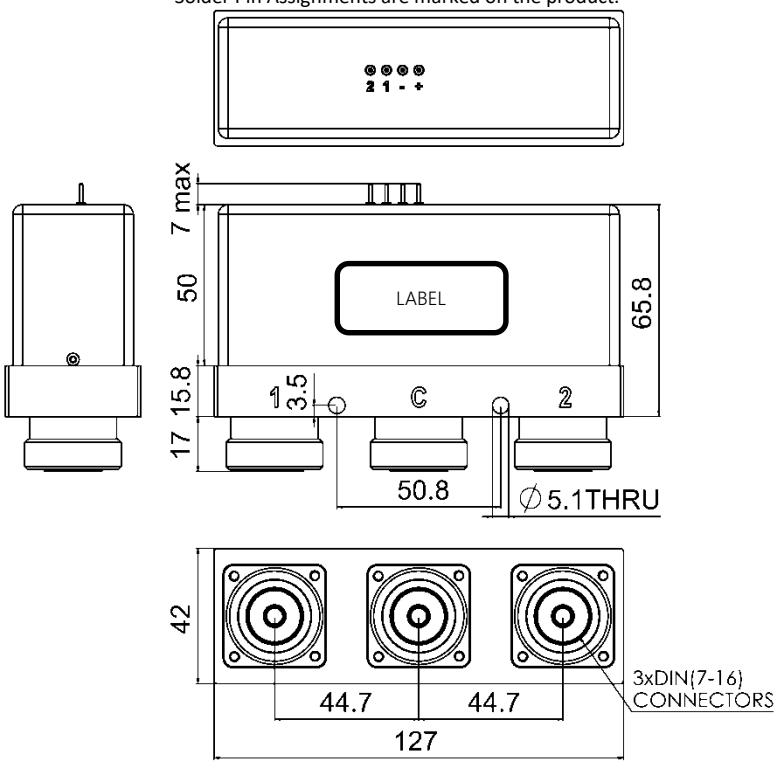
Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.

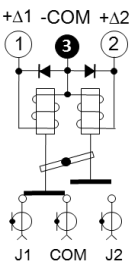


Solder Pin Assignments are marked on the product.

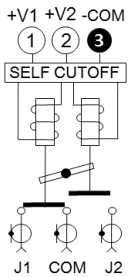


Mechanical drawings (unit: mm, tolerance +/-0.5mm).

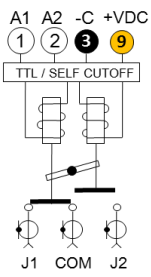
Pulse Latching

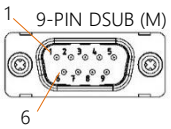


Self Cutoff (latching only)



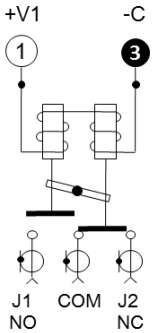
TTL and Self Cutoff (latching only)



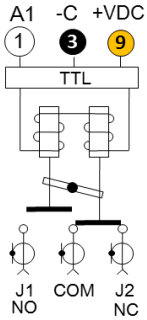


DSUB	
Pin No	PINOUT
1	A1/V1 (J1-COM)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.)
6	2 (IND.)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Failsafe



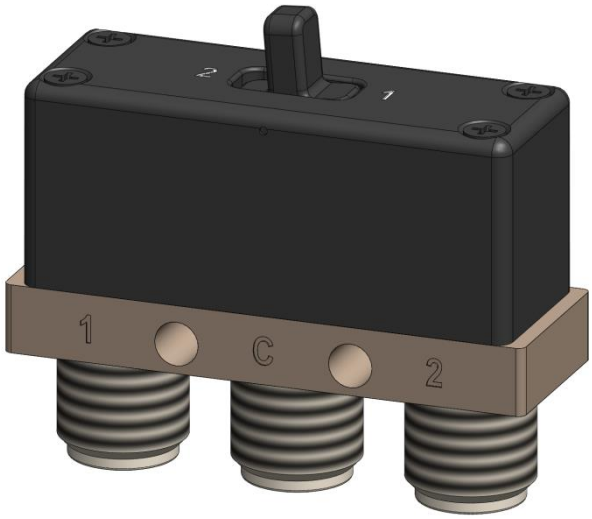
Failsafe TTL



SPDT, N (high power), DC-12.4GHz

The **MC4p-N12** Series features N-type connectors (high power) and an operation frequency range of DC to 12.4GHz. This provides a manual operation.

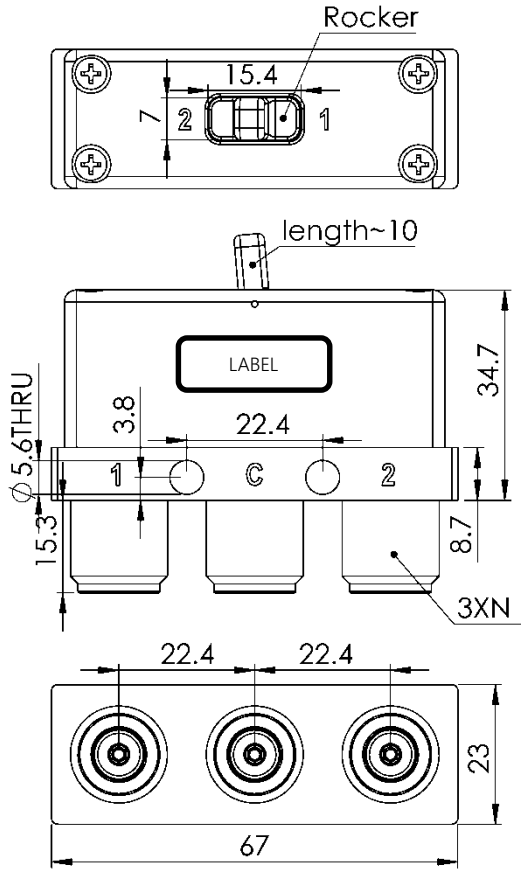
MANUAL OPERATION



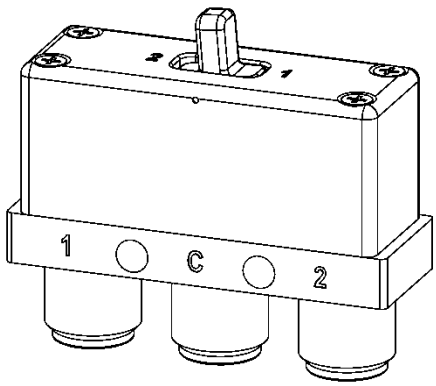
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	Manual operation
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	180g

Manual Operation	Port 1 - C	Port 2 - C
Toggle to Left Side	Open	Connected
Toggle to Right Side	Connected	Open

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-2	1.20	0.20	80
2-4	1.30	0.30	70
4-8	1.40	0.40	60
8-12.4	1.50	0.50	50



Mechanical drawings (unit: mm, tolerance +/-0.5mm).



MCD-N04

SPDT, N, DC-4GHz

FAILSAFE or LATCHING

The **MCD-N04** series features N-type connectors and an operation frequency range of DC to 4 GHz. The N connectors are arranged in a Y-configuration so that input is on one side and outputs are on the other. This series can be either latching or failsafe type. The options include TTL, SELF CUTOFF, suppression diodes, and indicator contacts.

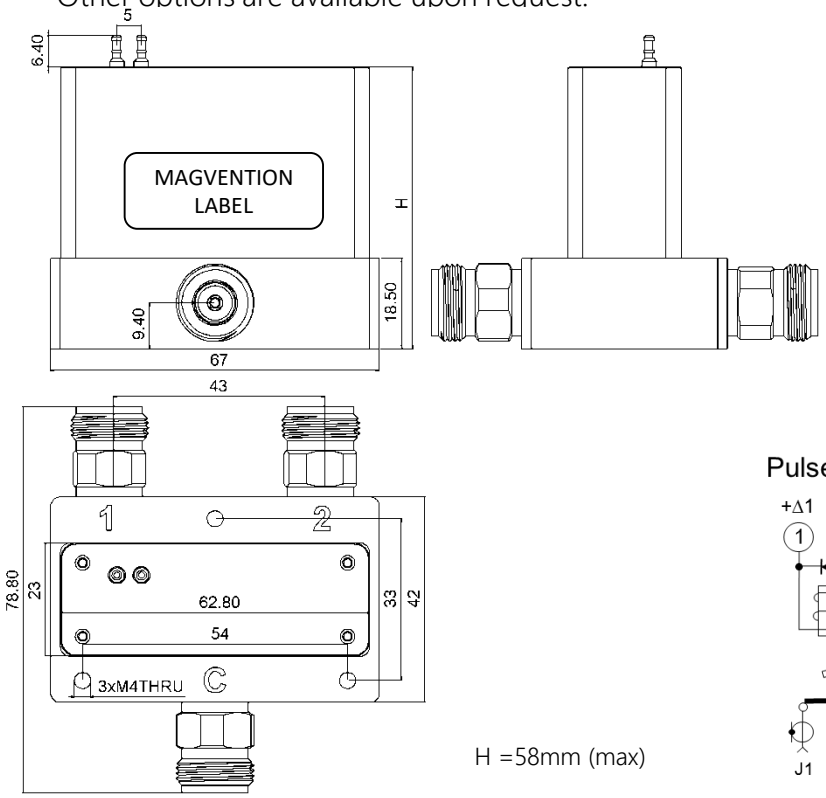
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Operating Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	95%±3%（30~60℃±5℃）
Operation Life (cycles)	1,000,000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	540g

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	275	170	130	115
	Latching	100	80	70	60

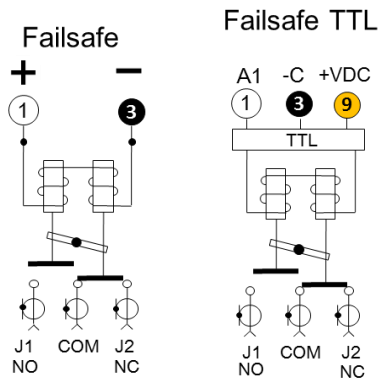
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-2	1.15	0.20	80
2-4	1.25	0.25	60

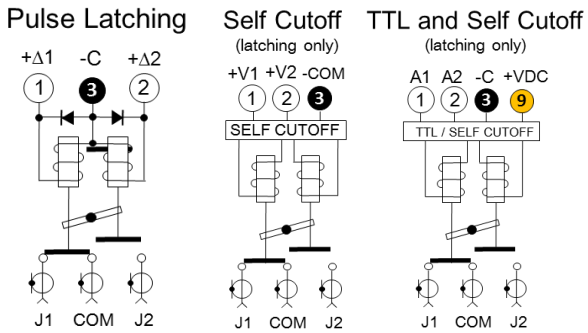
Higher frequency range is available upon request.

Other options are available upon request.



H =58mm (max)

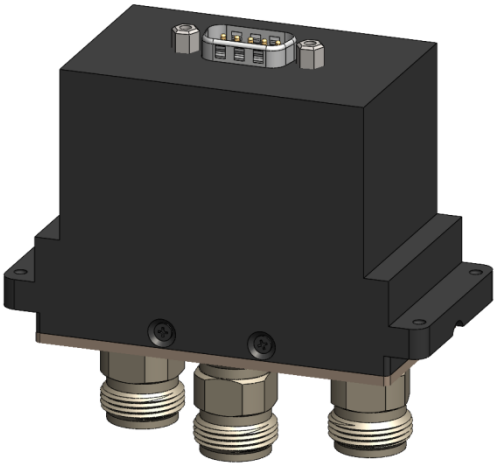




Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MCVpe-N02L28-3KDM-1: 1P2T, ext-T, N-V-type, DC-2GHz, LATCHING, 28VDC, TTL/SELF CUTOFF/INDICATOR, DB9, Moisture Seal, Strait Mounting Hole

The MCVpe-N02 series features N-type connectors and an operation frequency range of DC to 2 GHz. The N connectors are arranged in a V-configuration to allow more spacing between them. This series can be either latching or failsafe type. The options include TTL, SELF CUTOFF, suppression diodes, and indicator contacts.



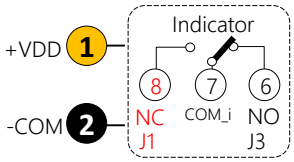
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Operating Temperature Range	–55°C to +85°C ("e" option)
Relative Humidity	95%±3%（30~60℃±5℃）
Operation Life (cycles)	1,000,000
Vibration Operating	10G RMS, 15-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec

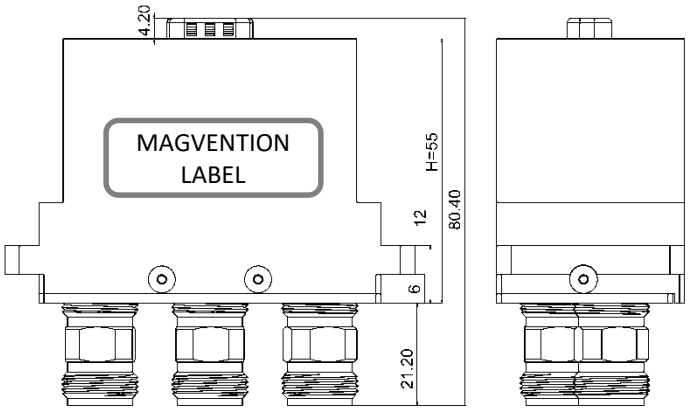
Voltage (VDC)					28
Current (mA) (max)					
	Latching				126

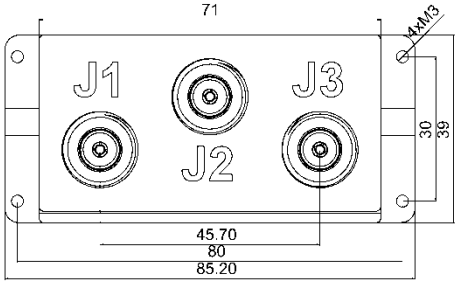
Other options are available upon request.

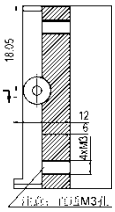
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
0.1 - 2	1.2	0.20	60

The switch is designed to handle CW RF Power of 400W at 2GHz, 500W at 1GHz, 1500W at 225MHz (sea level).

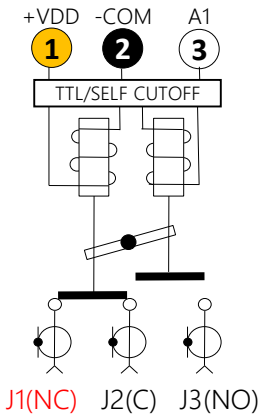








H=55mm
Mechanical drawings. (unit: mm)



LATCHING TTL/SELFCUT OFF 9-PIN D-SUB	
Pin No.	PINOUT
1	+VDD
2	COM(-)
3	A1 (TTL) (J2-J3)
4	UNUSED
5	UNUSED
6	INDICATOR J3
7	COM_i (INDICATOR)
8	INDICATOR J1
9	UNUSED

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100 mA
Max "ON" resistance: 16 W

Note: +VDD and COM- must be connected to operate.

MC5-S

DPDT, SMA, DC-26.5GHz

FAILSAFE/LATCHING

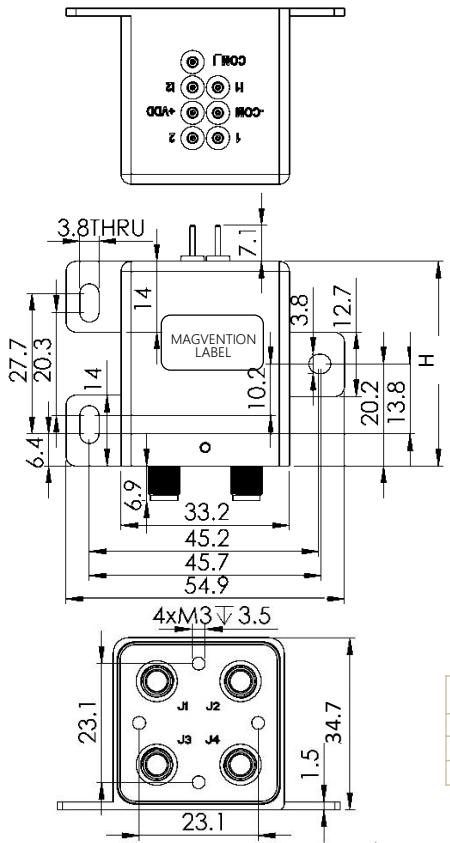
The **MC5-S** Series features SMA connectors with internal termination and an operation frequency range of DC to 26.5 GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

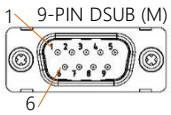
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	120g

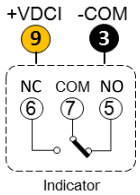
Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	400	330	207	193
	Latching	440	248	211	246

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.20	0.20	80
6-12	1.30	0.25	70
12-18	1.35	0.40	60
18-26.5	1.70	0.90	55

Other options are available upon request.







PINOUT	
Pin No.	PINOUT
1	A1/V1 (NO: J1-J3,J2-J4)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.) (NO: J1-J3,J2-J4)
6	2 (IND.) (NC: J1-J2,J3-J4)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.

H	Solder Pin	DSUB
Standard	40.4	45
TTL	40.4	52
Indicator	40.4	52

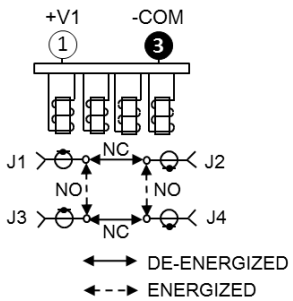


Fig. 1

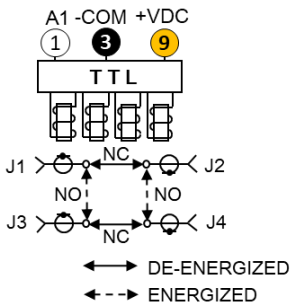


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC5-K

DPDT, K (2.92), DC-40GHz

FAILSAFE/LATCHING

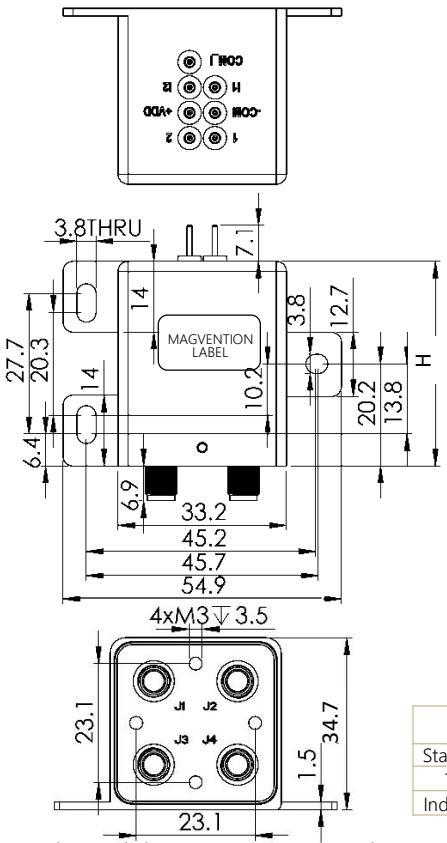
The **MC5-K** Series features K(2.92mm) connectors with internal termination and an operation frequency range of DC to 40 GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

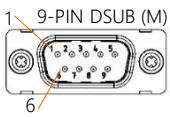
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	120g

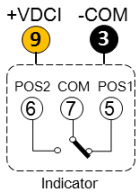
Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	400	330	207	193
	Latching	440	248	211	246

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.30	0.30	70
6-12	1.40	0.40	70
12-18	1.50	0.50	60
18-26.5	1.70	0.90	55
26.5-40	2.00	1.30	50

Other options are available upon request.







PINOUT	
Pin No.	PINOUT
1	A1/V1 (POS1: J1-J3,J2-J4)
2	A2/V2 (POS2: J1-J2,J3-J4)
3	COM-
4	UNUSED
5	1 (IND.) (POS1: J1-J3,J2-J4)
6	2 (IND.) (POS2: J1-J2,J3-J4)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

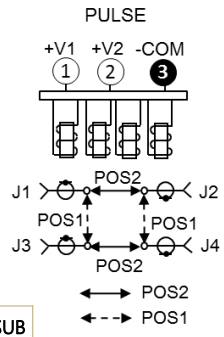


Fig. 3

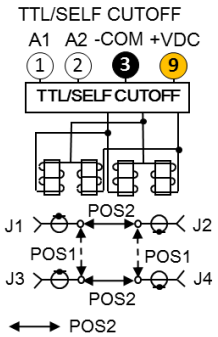


Fig. 4

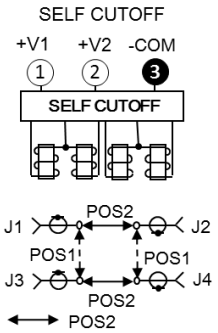


Fig. 5

H	Solder Pin	DSUB
Standard	40.4	45
TTL	40.4	52
Indicator	40.4	52

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

FAILSAFE/LATCHING

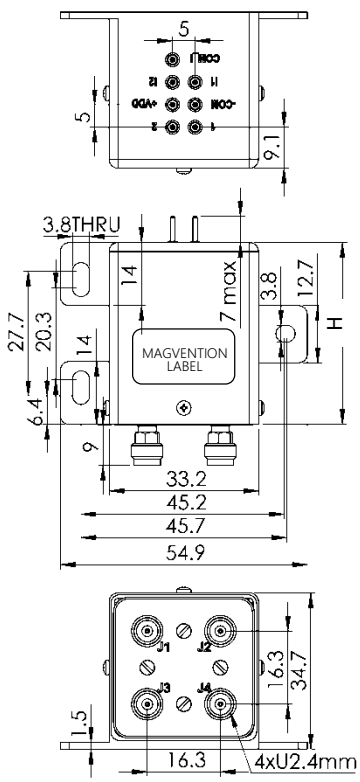
The **MC5-U** Series features U(2.4mm) connectors with internal termination and an operation frequency range of DC to 50 GHz. This series is available with failsafe, latching self-cutoff or pulse latching, TTL, and coil suppression options.

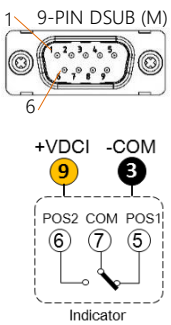
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	120g

Standard			
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	130	0.30	70
6-12	1.40	0.40	70
12-18	1.50	0.50	60
18-26.5	1.70	0.70	55
26.5-40	2.00	1.00	50
40-50	2.20	1.40	45

Voltage (VDC)		12	18	24	28
Current (mA)	Failsafe	400	330	207	193
	Latching	440	248	211	246

Other options are available upon request.





PINOUT	
Pin No.	PINOUT
1	A1/V1 (POS1: J1-J3,J2-J4)
2	A2/V2 (POS2: J1-J2,J3-J4)
3	COM-
4	UNUSED
5	1 (IND.) (POS1: J1-J3,J2-J4)
6	2 (IND.) (POS2: J1-J2,J3-J4)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

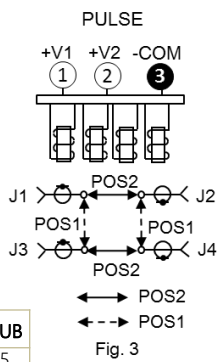


Fig. 3

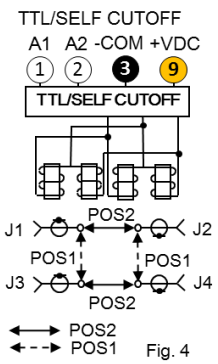


Fig. 4

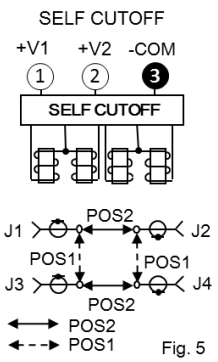


Fig. 5

H	Solder Pin	DSUB
Standard	40.4	45
TTL	40.4	52
Indicator	40.4	52

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC6np-N 1P6T, N (high power), DC-12.4GHz

MC6n: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN

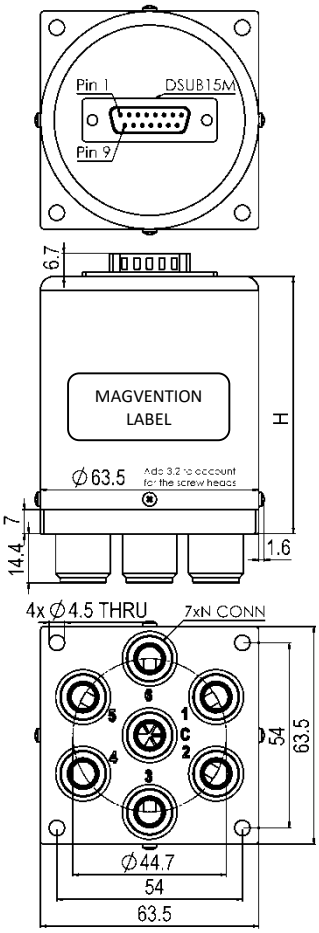
The **MC6p-N** Series features N connectors and an operation frequency range from DC to 12.4 GHz. This series is of NORMALLY OEPN type with or without TTL, coil suppression diodes, and indicator options.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard) –55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1,000,000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	550g

Voltage (VDC)	12	18	24	28
Current (mA)	250	160	140	120

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.3	0.3	70
3-8	1.5	0.5	60
8-12.4	1.7	0.7	50

Other options are available upon request.



Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDC

PIN 8-14: For optional INDICAOTRS only.

PIN 1-6: The corresponding control signal inputs.
PIN 8-15: For optional INDICAOTRS only.

1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

Height H Table.

DSUB		Solder Pin	
drive	Std	drive	Std
4D	65	no K	65
Others	75	K	68

Note: K=indicator;

NORMALLY OPEN

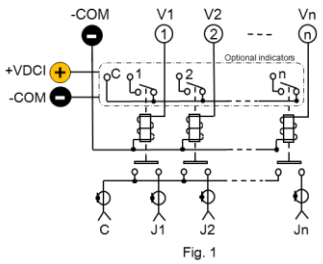


Fig. 1

NORMALLY OPEN with TTL

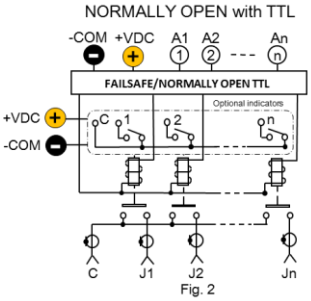


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC6-C

1P6T, SC, DC-6.5GHz

MC6n: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN

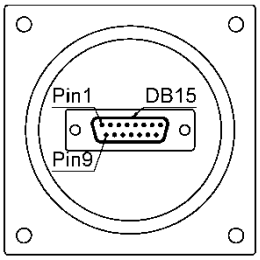
The **MC6-C** Series features SC connectors and an operation frequency range from DC to 6.5 GHz. This series is of NORMALLY OEPN type with or without TTL, coil suppression diodes, and indicator options.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard) –55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1,000,000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	580g

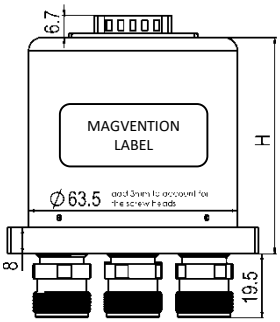
Voltage (VDC)	12	18	24	28
Current (mA)	240	160	140	120

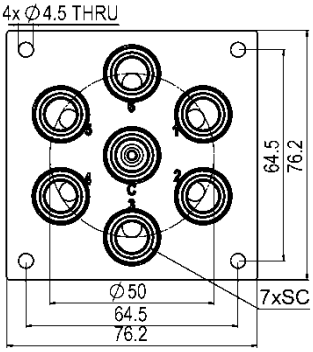
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-4	1.25	0.3	70
4-6.5	1.45	0.4	60

Note: The listed RF results are for the model with standard power. Consult with the company for the high-power versions.



Other options are available upon request.





Mechanical drawings (unit: mm, tolerance +/-0.5mm).

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

Height H Table.

DSUB		Solder Pin	
drive	Std	drive	Std
4D	66	no K	66
Others	76	K	69

Note: K=indicator;

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDC

PIN 8-14: For optional INDICAOTRS only.

PIN 1-6: The corresponding control signal inputs.
PIN 8-15: For optional INDICAOTRS only.

NORMALLY OPEN

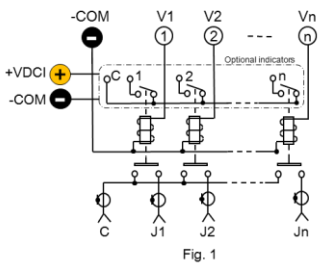


Fig. 1

NORMALLY OPEN with TTL

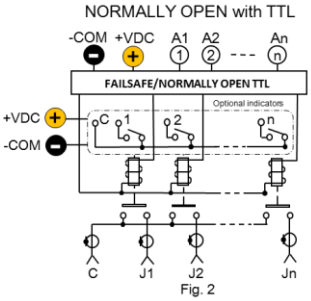


Fig. 2

MC6-R

1P6T, 4.3-10, DC-6GHz

MC6n: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN

The **MC6-R** Series features 4.3-10 connectors and an operation frequency range from DC to 6 GHz. This series is of NORMALLY OEPN type with or without TTL, coil suppression diodes, and indicator options.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	700g

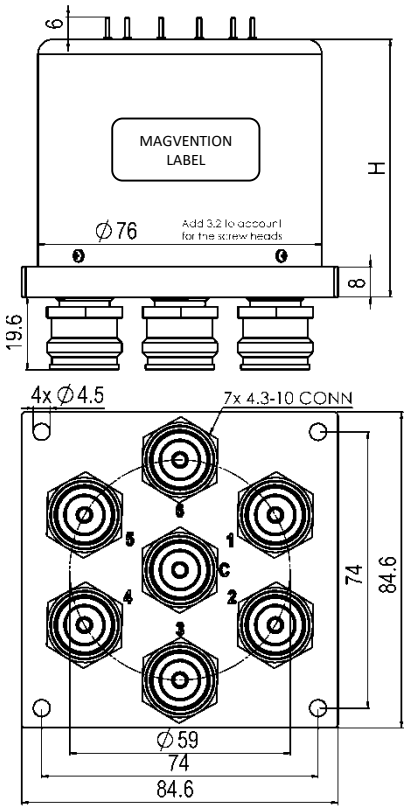
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.30	0.30	70
3-4	1.40	0.40	60
4-6	1.50	0.50	50

Voltage (VDC)	12	18	24	28
Current (mA)	240	160	140	100

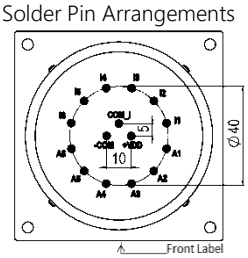
Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.



Top Solder Pin Arrangements



1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: “Blank” represents the unused RF and corresponding control ports.

Height H Table.

DSUB		Solder Pin	
drive	Std	drive	Std
4D	66	no K	66
Others	76	K	69

Note: K=indicator;

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8	1 (ind: J1-C)
9	2 (ind: J2-C)
10	3 (ind: J3-C)
11	4 (ind: J4-C)
12	5 (ind: J5-C)
13	6 (ind: J6-C)
14	com_i
15	+VDCI

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	1 (ind: J1-C)
9	2 (ind: J2-C)
10	3 (ind: J3-C)
11	4 (ind: J4-C)
12	5 (ind: J5-C)
13	6 (ind: J6-C)
14	com_i
15	+VDC

PIN 8-14: For optional INDICAOTRS only.

PIN 1-6: The corresponding control signal inputs.
PIN 8-15: For optional INDICAOTRS only.

NORMALLY OPEN

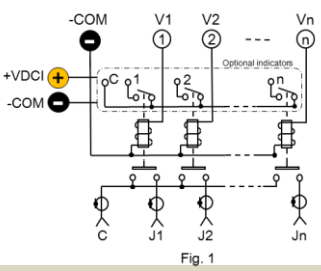


Fig. 1

NORMALLY OPEN with TTL

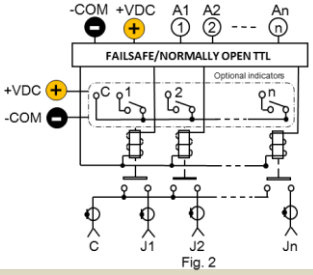
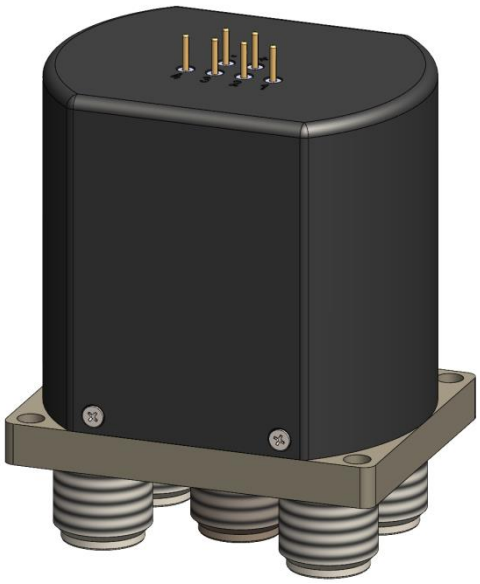


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN

The **MC64-C** Series features C connectors and an operation frequency range from DC to 1 GHz. This series is of NORMALLY OEPN type with or without TTL, coil suppression diodes, and indicator options.

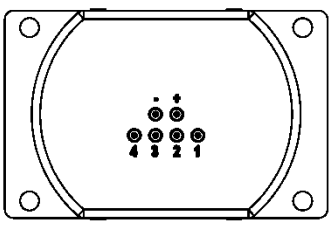


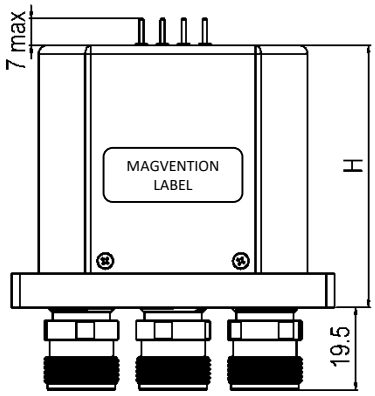
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C (Standard) –55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1,000,000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	550g

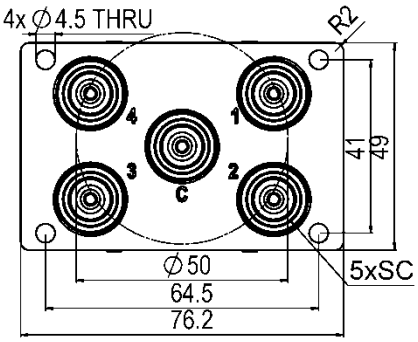
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-1	1.2	0.2	70

Voltage (VDC)				28
Current (mA)				120

Top Solder Pin Arrangements







H = 67 mm
(without indicators)

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN TTL	
Pin No.	PINOUT
n=1-4	An (Jn-COM)
7	COM(-)
15	+VDC
others	unused

Pin 1-4: The corresponding control signal inputs.

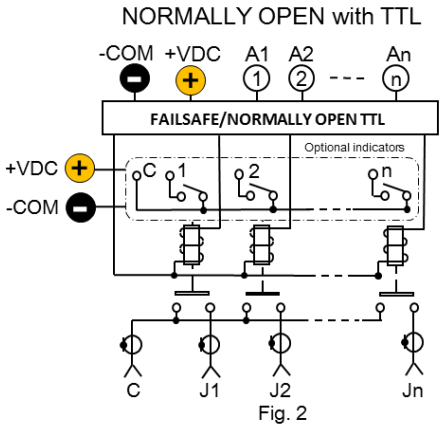


Fig. 2

MC7-N DPDT, N, DC-12.4GHz

The **MC7-N** product features N-type connectors and an operation frequency range of DC to 12.4 GHz. This product can be of latching or failsafe type. The options include TTL, SELF CUTOFF, suppression diodes, and indicators. Higher frequency range is available upon request.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Operating Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	95%±3%（30~60℃±5℃）
Operation Life (cycles)	1,000,000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	350g

Voltage (VDC)		12	18	24	28
Current (mA) (max)	Failsafe	550	370	270	240
	Latching	290	220	200	160

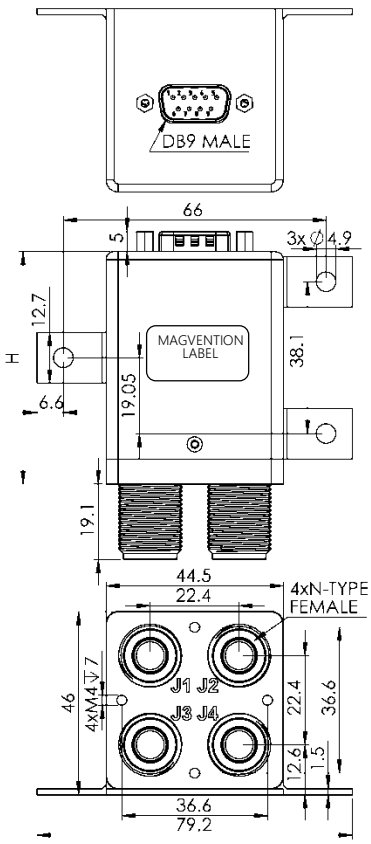
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-2	1.15	0.20	70
2-4	1.20	0.25	70
4-12.4	1.50	0.50	50

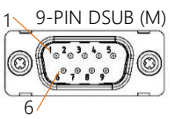
Other options are available upon request.

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.





PINOUT (Failsafe)	
Pin No.	PINOUT
1	A1/V1 (NO: J1-J3,J2-J4)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.) (NO: J1-J3,J2-J4)
6	2 (IND.) (NC: J1-J2,J3-J4)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

PINOUT(Latching)	
Pin No.	PINOUT
1	A1/V1 (POS1: J1-J3,J2-J4)
2	A2/V2 (POS2: J1-J2,J3-J4)
3	COM-
4	UNUSED
5	1 (IND.) (POS1: J1-J3,J2-J4)
6	2 (IND.) (POS2: J1-J2,J3-J4)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

H = 58.4 mm

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

FAILSAFE

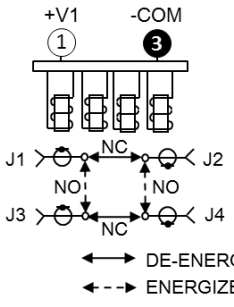


Fig. 1

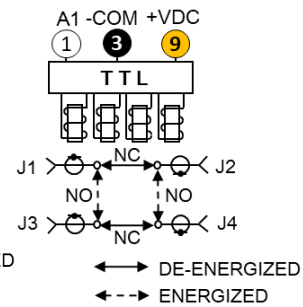


Fig. 2

LATCHING

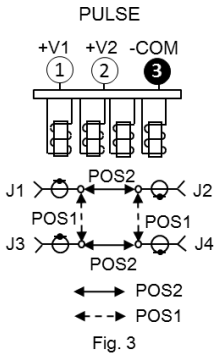


Fig. 3

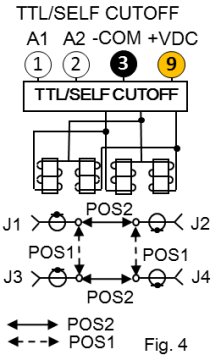


Fig. 4

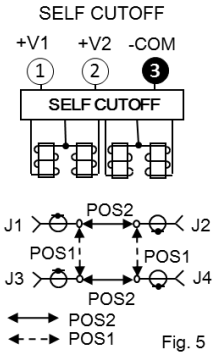


Fig. 5

MC7p-N

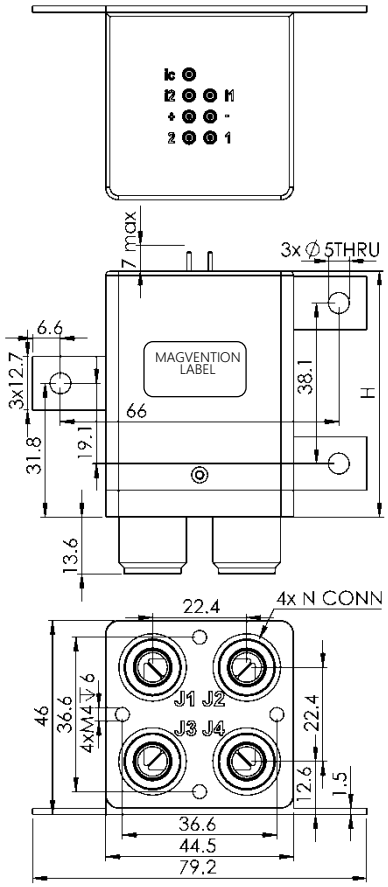
DPDT, N (high power), DC-12.4GHz

The **MC7p-N** product features N-type connectors and an operation frequency range of DC to 12.4 GHz. This product can be of latching or failsafe type. The options include TTL, SELF CUTOFF, suppression diodes, and indicators. Higher frequency range is available upon request.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Operating Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	95%±3%（30~60℃±5℃）
Operation Life (cycles)	1,000,000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	350g

Voltage (VDC)		12	18	24	28
Current (mA) (max)	Failsafe	550	370	270	240
	Latching	290	220	200	160

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-2	1.20	0.20	70
2-4	1.25	0.25	60
4-12.4	1.70	0.70	40



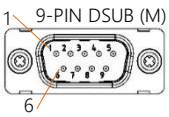
H = 58.4 mm

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.



PINOUT (Failsafe)	
Pin No.	PINOUT
1	A1/V1 (NO: J1-J3,J2-J4)
2	UNUSED
3	COM-
4	UNUSED
5	1 (IND.) (NO: J1-J3,J2-J4)
6	2 (IND.) (NC: J1-J2,J3-J4)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

PINOUT(Latching)	
Pin No.	PINOUT
1	A1/V1 (POS1: J1-J3,J2-J4)
2	A2/V2 (POS2: J1-J2,J3-J4)
3	COM-
4	UNUSED
5	1 (IND.) (POS1: J1-J3,J2-J4)
6	2 (IND.) (POS2: J1-J2,J3-J4)
7	COM_I (IND.)
8	UNUSED
9	+VDC/+VDCI

FAILSAFE

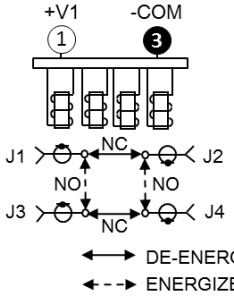


Fig. 1

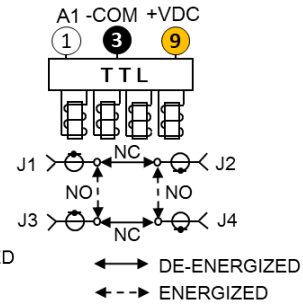


Fig. 2

LATCHING

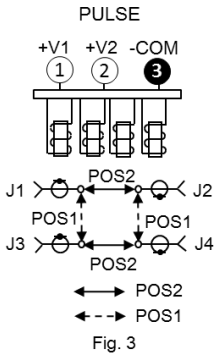


Fig. 3

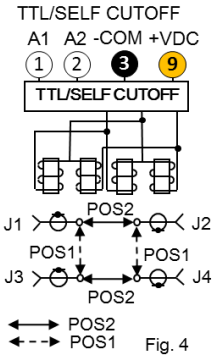


Fig. 4

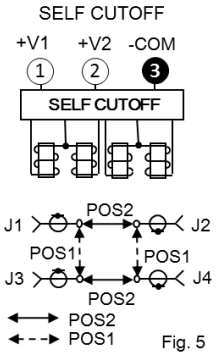


Fig. 5

MCFnT: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN or LATCHING

The **MCFnT-S18** product features SMA connectors and an operation frequency range of DC to 18 GHz. This product can be of normally-open or latching type and comes with internal self-terminations. Options include coils suppression diodes, TTL, and/or self cutoff circuits, and indicators.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	240g

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	80
6-12	1.4	0.4	70
12-18	1.5	0.5	60

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	300	220	167	160
	Latching (set)	350	240	180	160

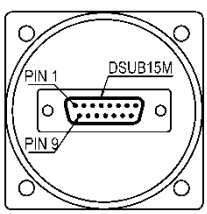
For LATCHING, I(reset) = n x I(set).
Other options are available upon request.

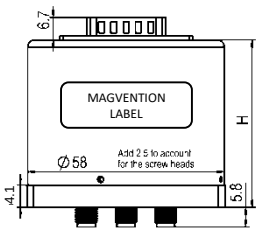
OPTIONAL INDICATOR	
Pin No.	PINOUT
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

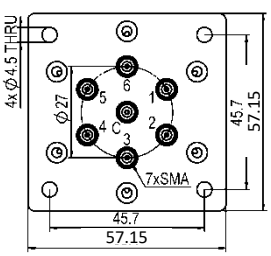
Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.







MCF3-,1P3T SWITCH
MCF4-,1P4T SWITCH
MCF5-,1P5T SWITCH
MCF6-,1P6T SWITCH

1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	47.1	47.1
TTL	47.1	59.1
Indicator	47.1	59.1

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

Pin 1-6: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	+ΔVn (Jn-COM)
7	COM(-)
8	+ΔVR (Reset ALL OPEN)
9-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	AR (Reset ALL OPEN)
9-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

MCFnT: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN or LATCHING

The **MCFnT-K40** product features K (2.92mm) connectors and an operation frequency range of DC to 40 GHz. This product can be of normally-open or latching type and comes with internal self-terminations. Options include coils suppression diodes, TTL, and/or self cutoff circuits, and indicators.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	240g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	300	220	167	160
	Latching (set)	350	240	180	160

For LATCHING, I(reset) = n x I(set).

Other options are available upon request.

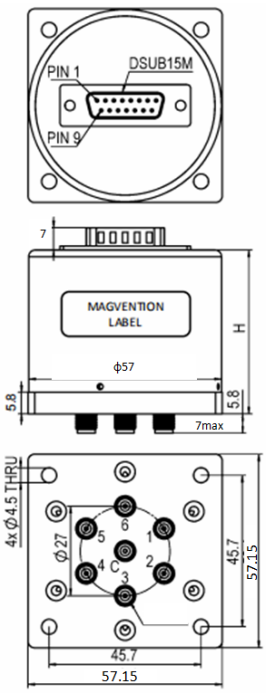
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	60
12-18	1.5	0.5	60
18-32	1.9	0.8	55
32-40	2.2	1.3	50

OPTIONAL INDICATOR	
Pin No.	PINOUT
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.



MCF3-,1P3T SWITCH
MCF4-,1P4T SWITCH
MCF5-,1P5T SWITCH
MCF6-,1P6T SWITCH

1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	48.8	48.8
TTL	48.8	60.8
Indicator	48.8	60.8

Pin 1-6: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	+ΔVn (Jn-COM)
7	COM(-)
8	+ΔVR (Reset ALL OPEN)
9-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	AR (Reset ALL OPEN)
9-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MCF6Th-K40 -U 1P6T, Terminated, K, DC-40GHz

hi-performance, high repeatability: 0.03dB (Insertion loss)

NORMALLY OPEN or LATCHING

The **MCFnTh-K40** product features K (2.92mm) connectors and an operation frequency range of DC to 40 GHz. This product can be of normally-open or latching type and comes with internal self-terminations. Options include coils suppression diodes, TTL, and/or self cutoff circuits, and indicators.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	240g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	300	220	167	160
	Latching (set)	350	240	180	160

For LATCHING, I(reset) = n x I(set).
Other options are available upon request.

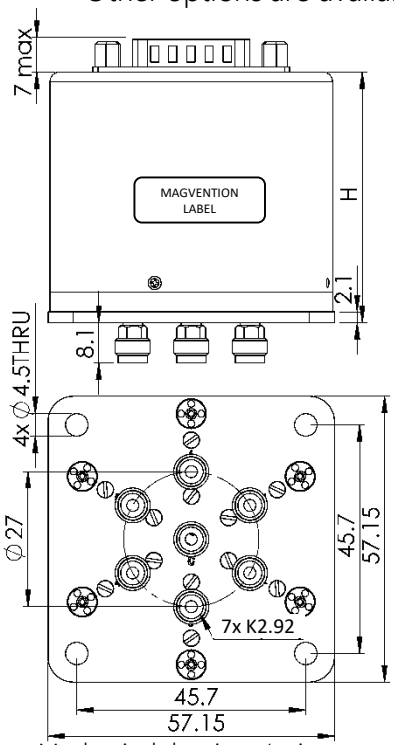
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	70
12-18	1.5	0.5	60
18-26.5	1.6	0.6	60
26.5-40	1.8	0.8	55

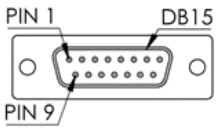
OPTIONAL INDICATOR	
Pin No.	PINOUT
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.





MCF3-,1P3T SWITCH
MCF4-,1P4T SWITCH
MCF5-,1P5T SWITCH
MCF6-,1P6T SWITCH

1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	49.1	49.1
TTL	49.1	61.1
Indicator	49.1	61.1

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

Pin 1-6: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	+ΔVn (Jn-COM)
7	COM(-)
8	+ΔVR (Reset ALL OPEN)
9-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	AR (Reset ALL OPEN)
9-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

MCFnT: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN or LATCHING

The **MCFnT-U50** product features U (2.4mm) connectors and an operation frequency range of DC to 50 GHz. This product can be of normally-open or latching type and comes with internal self-terminations. Options include coils suppression diodes, TTL, and/or self cutoff circuits, and indicators.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	240g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	300	220	167	160
	Latching (set)	350	240	180	160

For LATCHING, I(reset) = n x I(set).
Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	60
12-18	1.5	0.5	60
18-32	1.9	0.8	55
32-40	2.0	1.0	50
40-50	2.1	1.3	50

NORMALLY OPEN 15-PIN D-SUB PINOUT

Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT

Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT

Pin No.	PINOUT
n=1-6	+ΔVn (Jn-COM)
7	COM(-)
8	+ΔVR (Reset ALL OPEN)
9-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT

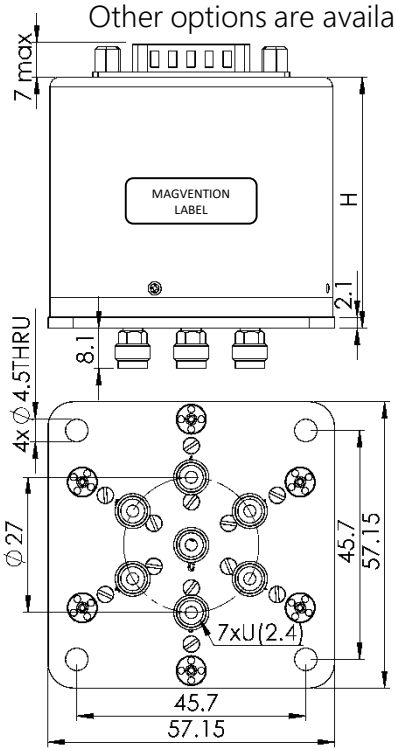
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	AR (Reset ALL OPEN)
9-14	UNUSED
15	+VDC

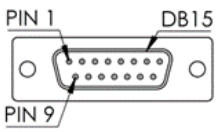
LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT

Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT

Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC





MCF3-,1P3T SWITCH
MCF4-,1P4T SWITCH
MCF5-,1P5T SWITCH
MCF6-,1P6T SWITCH

1PnT PORT CONFIGURATIONS

1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	49.1	49.1
TTL	49.1	61.1
Indicator	49.1	61.1

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

Pin 1-6: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

OPTIONAL INDICATOR

Pin No.	PINOUT
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

MCF6T-V67

1P6T, Terminated, V(1.85mm), DC-67GHz

MCFnT: n=3-6 (e.g., n=6 for 1P6T)

NORMALLY OPEN or LATCHING

The **MCFnT-V67** product features V (1.85mm) connectors and an operation frequency range of DC to 67 GHz. This product can be of normally-open or latching type and comes with internal self-terminations. Options include coils suppression diodes, TTL, and/or self cutoff circuits, and indicators.

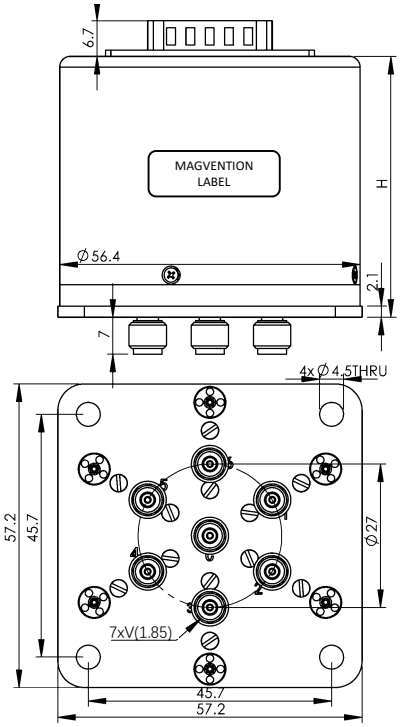
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	240g

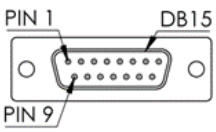
Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	300	220	167	160
	Latching (set)	350	240	180	160

For LATCHING, I(reset) = n x I(set).

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-18	1.4	0.5	90
18-35	1.9	0.8	80
35-45	2.2	1.2	70
45-55	2.3	1.3	60
55-67	2.4	1.8	50





MCF3-,1P3T SWITCH
MCF4-,1P4T SWITCH
MCF5-,1P5T SWITCH
MCF6-,1P6T SWITCH

1PnT PORT CONFIGURATIONS						
1PnT	Ports Used					
1P6T	1	2	3	4	5	6
1P5T	1	2	3	4	5	
1P4T	1	2		4	5	
1P3T	1		3		5	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	49.1	49.1
TTL	49.1	61.1
Indicator	49.1	61.1

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	+ΔVn (Jn-COM)
7	COM(-)
8	+ΔVR (Reset ALL OPEN)
9-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8	AR (Reset ALL OPEN)
9-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	Vn (Jn-COM)
7	COM(-)
8-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-6	An (Jn-COM)
7	COM(-)
8-14	UNUSED
15	+VDC

Pin 1-6: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

OPTIONAL INDICATOR	
Pin No.	PINOUT
8	1 (IND: J1-C)
9	2 (IND: J2-C)
10	3 (IND: J3-C)
11	4 (IND: J4-C)
12	5 (IND: J5-C)
13	6 (IND: J6-C)
14	COM_I
15	+VDCI

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

MC9n: n=7-8 (e.g., n=8 for 1P8T)

NORMALLY OPEN

The **MC9** series features SMA connectors and an operation frequency range of DC to 18 GHz. Higher frequency ranges are available. This product is of normally-open type with a compact design. The product options include TTL, suppression diodes, indicators, etc.

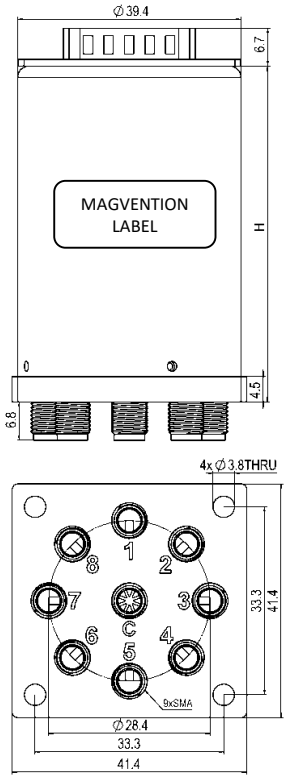
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	185g

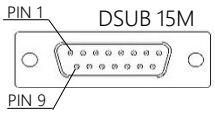
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-4	1.2	0.2	75
4-8	1.3	0.3	65
8-12.4	1.4	0.4	60
12.4-18	1.6	0.6	60

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	290	190	150	130

Other options are available upon request.

Higher frequency ranges are available upon request.





MC97-,1P7T SWITCH
MC98-,1P8T SWITCH

1PnT PORT CONFIGURATIONS								
1PnT	Ports Used							
1P8T	1	2	3	4	5	6	7	8
1P7T	1	2	3	4	5	6	7	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	57.1	60.5
TTL	57.1	70.5

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

Pin 1-10: The corresponding control signal inputs.

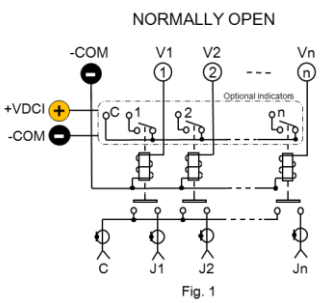


Fig. 1

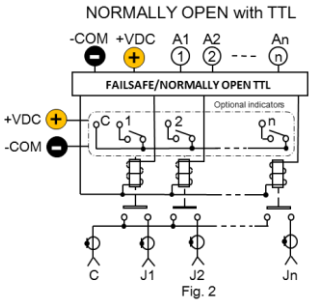


Fig. 2

MC98-K40 1P8T, K, DC-40GHz

MC9n: n=7-8 (e.g., n=8 for 1P8T)

NORMALLY OPEN

The **MC9-K40** Series features K connectors and an operation frequency range of DC to 40 GHz. This series is of normally open type. Options include TTL, coil suppression diodes, indicators etc. The product is typically supplied with a 15-pin male D-sub control interface.

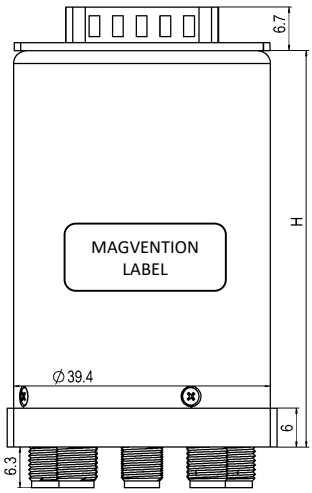
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	185g

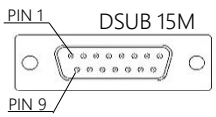
Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	290	190	150	130

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	60
12-26.5	1.7	0.7	55
26.5-40	2.0	1.2	50

Higher frequency ranges are available upon request.





MC97-,1P7T SWITCH
MC98-,1P8T SWITCH

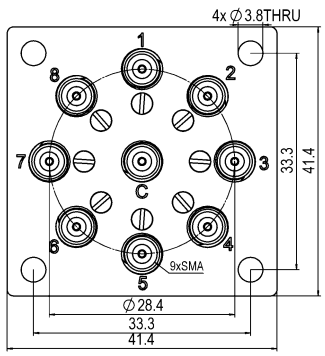
1PnT PORT CONFIGURATIONS								
1PnT	Ports Used							
1P8T	1	2	3	4	5	6	7	8
1P7T	1	2	3	4	5	6	7	

Note: "Blank" represents the unused RF and corresponding control ports.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

Pin 1-10: The corresponding control signal inputs.



H	Solder Pin	DSUB
Standard	58.8	62.2
TTL	58.8	72.2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN

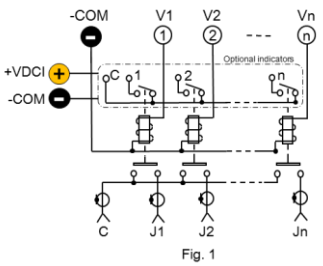


Fig. 1

NORMALLY OPEN with TTL

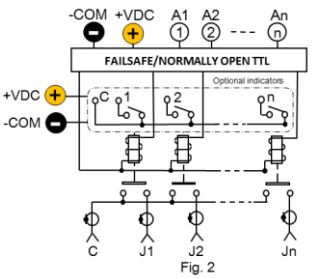


Fig. 2

MC98-S18

1P8T, SMA, DC-18GHz, USB-Control

The MC9 series features SMA connectors and an operation frequency range of DC to 18 GHz. Higher frequency ranges are available. This product is of normally-open type with a compact design. The product options include TTL, suppression diodes, indicators, etc.

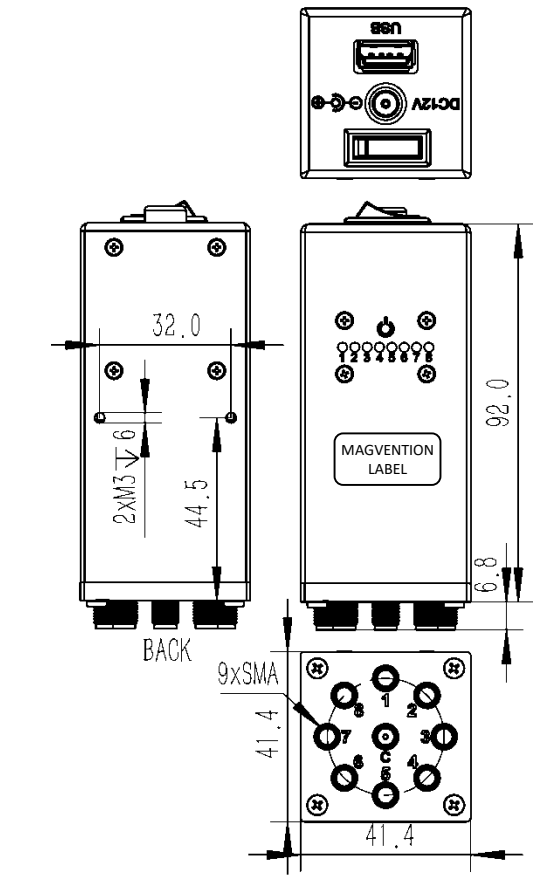
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
Relative Humidity	5 to 85%
Operation Life (cycles)	2000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	300 g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	290			

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-4	1.2	0.2	75
4-8	1.3	0.3	65
8-12.4	1.4	0.4	60
12.4-18	1.6	0.6	60

Higher frequency ranges are available upon request.



Mechanical drawings (unit: mm, tolerance +/-0.5mm).

USB controlled

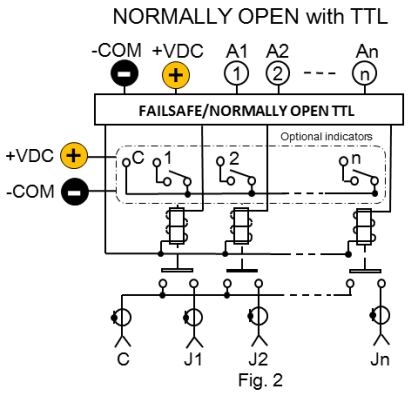


Fig. 2

MC88T-S18

1P8T, Terminated, SMA, DC-18GHz

MC8nT: n=7-8 (e.g., n=8 for 1P8T)

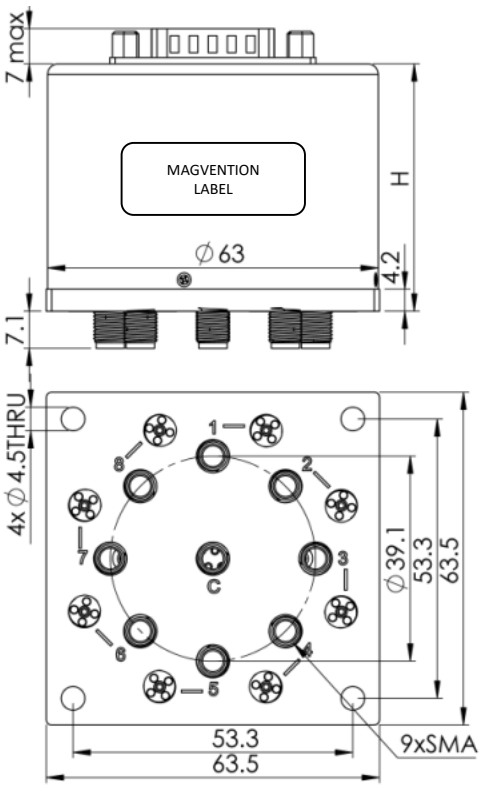
NORMALLY OPEN or LATCHING

The **MC8nT-S18** product features SMA connectors and an operation frequency range of DC to 18 GHz. This product can be of normally-open or latching type with internal self-terminations. The options include TTL, SELF CUTOFF, indicators, and suppression diodes etc. The product is typically provided with a 15-pin male D-sub connector as the control interface.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	285g

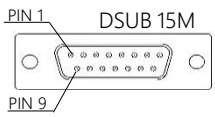
Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	330	220	167	140
	Latching (set)	290	225	150	120

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.4	0.4	70
12-18	1.5	0.5	60



For LATCHING, I(reset) = n x I(set).

Other options are available upon request.



MC88-,1P8T SWITCH
MC87-,1P7T SWITCH

1PnT PORT CONFIGURATIONS								
1PnT	Ports Used							
1P8T	1	2	3	4	5	6	7	8
1P7T	1	2	3	4	5	6	7	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	47.2	47.2
TTL	47.2	54.2
Indicator	47.2	64.2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

NORMALLY OPEN with TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	+ΔVn (Jn-COM)
9	COM(-)
10	+ΔVR (Reset ALL OPEN)
11-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10	AR (Reset ALL OPEN)
11-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

Pin 1-8: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

For options with INDICAOTRS, a 26PIN DSUB connector will be provided. Contact factory for the corresponding pin outs.

MC88T-K40

1P8T, Terminated, K(2.92mm), DC-40GHz

The **MC8nT-K40** product features K(2.92mm) connectors and an operation frequency range of DC to 40 GHz. This product can be of normally-open or latching type with internal self-terminations. The options include TTL, SELF CUTOFF, indicators, and suppression diodes etc. The product is typically provided with a 15-pin male D-sub connector as the control interface.

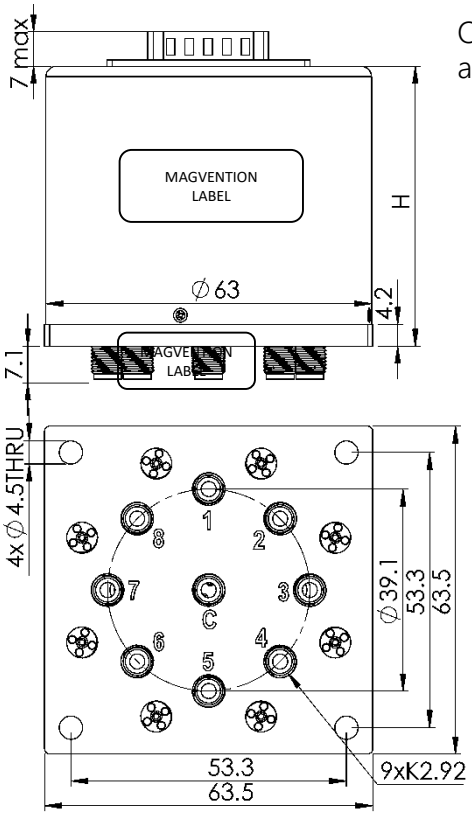
NORMALLY OPEN
or LATCHING

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	285g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	330	220	167	140
	Latching (set)	290	225	150	120

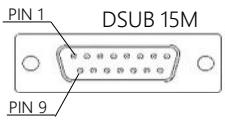
For LATCHING, I(reset) = n x I(set).

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	80
6-12	1.4	0.4	60
12-26.5	1.8	0.8	55
26.5-35	2.0	1.0	50
35-40	2.2	1.5	50



Mechanical drawings (unit: mm, tolerance +/-0.5mm).

Other options are available upon request.



MC88-,1P8T SWITCH
MC87-,1P7T SWITCH

1PnT PORT CONFIGURATIONS								
1PnT	Ports Used							
1P8T	1	2	3	4	5	6	7	8
1P7T	1	2	3	4	5	6	7	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	47.2	47.2
TTL	47.2	54.2
Indicator	47.2	64.2

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

NORMALLY OPEN with TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	+ΔVn (Jn-COM)
9	COM(-)
10	+ΔVR (Reset ALL OPEN)
11-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10	AR (Reset ALL OPEN)
11-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

Pin 1-8: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

For options with INDICAOTRS, a 26PIN DSUB connector will be provided. Contact factory for the corresponding pin outs.

MC88Th-K40 -U

1P8T, Terminated, K(2.92mm), DC-40GHz

hi-performance, **high repeatability: 0.03dB (Insertion loss)**

NORMALLY OPEN or LATCHING

The MC8nTh-K40 product features K(2.92mm) connectors and an operation frequency range of DC to 40 GHz. This product can be of normally-open or latching type with internal self-terminations. The options include TTL, SELF CUTOFF, indicators, and suppression diodes etc. The product is typically provided with a 15-pin male D-sub connector as the control interface.

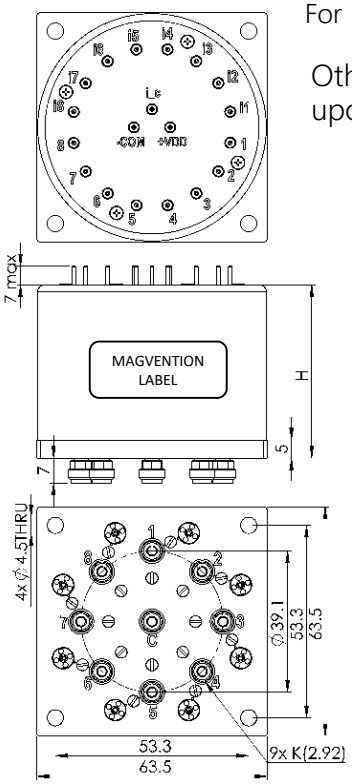
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	285g

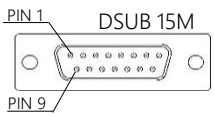
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	80
6-12	1.4	0.4	60
12-26.5	1.8	0.8	55
26.5-40	2.0	1.4	50

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	330	220	167	140
	Latching (set)	290	225	150	120

For LATCHING, I(reset) = n x I(set).

Other options are available upon request.





MC88-,1P8T SWITCH
MC87-,1P7T SWITCH

1PnT PORT CONFIGURATIONS								
1PnT	Ports Used							
1P8T	1	2	3	4	5	6	7	8
1P7T	1	2	3	4	5	6	7	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	48	48
TTL	48	55
Indicator	48	65

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

NORMALLY OPEN with TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	+ΔVn (Jn-COM)
9	COM(-)
10	+ΔVR (Reset ALL OPEN)
11-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10	AR (Reset ALL OPEN)
11-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

Pin 1-8: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

For options with INDICAOTRS, a 26PIN DSUB connector will be provided. Contact factory for the corresponding pin outs.

MCHn: n=7-8 (e.g., n=8 for 1P8T)

NORMALLY OPEN

The **MCHn-** series features 1P8T with N connectors and an operation frequency range from DC to 8 GHz. This product is of NORMALLY OPEN type. The options include TTL and coil suppression diodes etc.

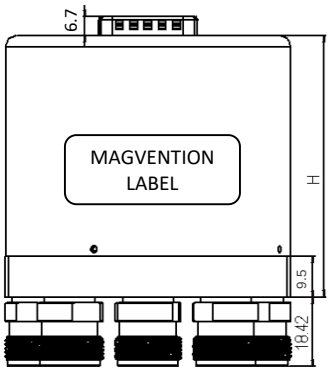
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	630g

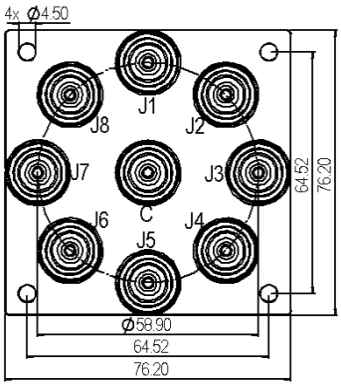
Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	230	160	140	120

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.3	0.3	70
3-4	1.4	0.4	60
4-8	1.5	0.5	50

Higher frequency ranges are available upon request.





MCH8-,1P8T SWITCH
MCH7-,1P7T SWITCH

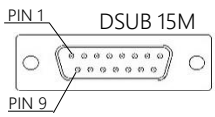
1PnT PORT CONFIGURATIONS								
1PnT	Ports Used							
1P8T	1	2	3	4	5	6	7	8
1P7T	1	2	3	4	5	6	7	

Note: "Blank" represents the unused RF and corresponding control ports.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

NORMALLY OPEN With TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

Pin 1-8: The corresponding control signal inputs.



H	Solder Pin	DSUB
Standard	67.5	67.5
TTL	67.5	77.5
Indicator		77.5

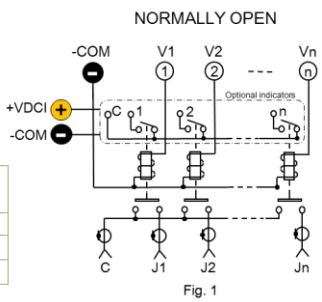


Fig. 1

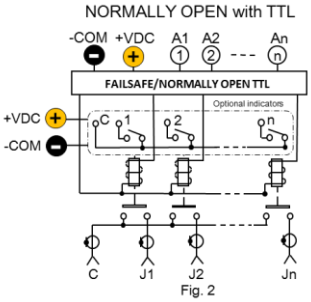


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MCH8p-N 1P8T, N (high power), DC-8GHz

MCHnp: n=7-8 (e.g., n=8 for 1P8T)

NORMALLY OPEN

The **MCHnp-** series features 1P8T with N (high power) connectors and an operation frequency range from DC to 8 GHz. This product is of NORMALLY OPEN type. The options include TTL and coil suppression diodes etc.

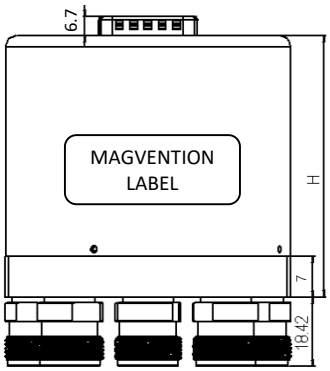
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	630g

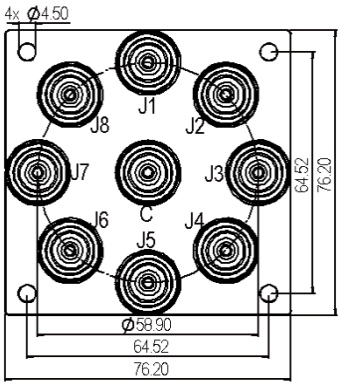
Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	230	160	140	120

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.3	0.3	70
3-4	1.4	0.4	60
4-8	1.5	0.5	50

Higher frequency ranges are available upon request.

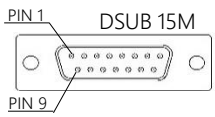




MCH8-,1P8T SWITCH
MCH7-,1P7T SWITCH

1PnT PORT CONFIGURATIONS								
1PnT	Ports Used							
1P8T	1	2	3	4	5	6	7	8
1P7T	1	2	3	4	5	6	7	

Note: "Blank" represents the unused RF and corresponding control ports.



H	Solder Pin	DSUB
Standard	65	65
TTL	65	75
Indicator		75

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

NORMALLY OPEN With TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

Pin 1-8: The corresponding control signal inputs.

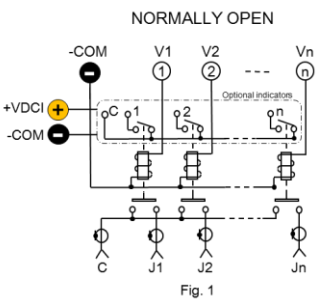


Fig. 1

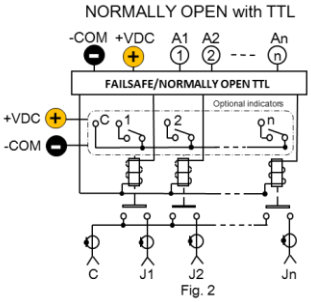


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MCH8-C 1P8T, SC, DC-8GHz

MCHn: n=7-8 (e.g., n=8 for 1P8T)

NORMALLY OPEN

The **MCHn-** series features 1P8T with SC connectors and an operation frequency range from DC to 8 GHz. This product is of NORMALLY OPEN type. The options include TTL and coil suppression diodes etc.

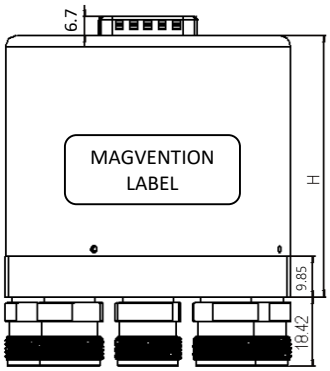
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	630g

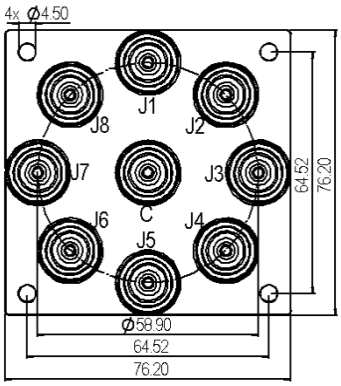
Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	230	160	140	120

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.3	0.3	70
3-4	1.4	0.4	60
4-8	1.5	0.5	50

Higher frequency ranges are available upon request.

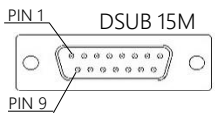




MCH8-,1P8T SWITCH
MCH7-,1P7T SWITCH

1PnT PORT CONFIGURATIONS								
1PnT	Ports Used							
1P8T	1	2	3	4	5	6	7	8
1P7T	1	2	3	4	5	6	7	

Note: "Blank" represents the unused RF and corresponding control ports.



H	Solder Pin	DSUB
Standard	67.9	67.9
TTL	67.9	77.9
Indicator		77.9

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	Vn (Jn-COM)
9	COM(-)
10-15	UNUSED

NORMALLY OPEN With TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-8	An (Jn-COM)
9	COM(-)
10-14	UNUSED
15	+VDC

Pin 1-8: The corresponding control signal inputs.

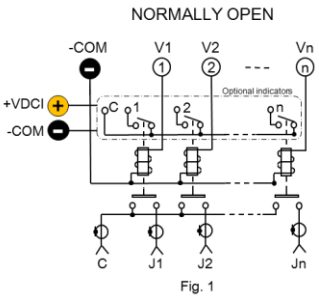


Fig. 1

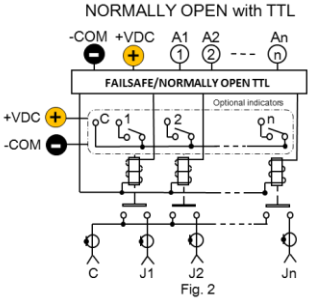


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MCJn: n=8-10 (e.g., n=10 for 1P10T)

NORMALLY OPEN

The MCJ10 series features SMA connectors and an operation frequency range of DC to 18 GHz. Higher frequency ranges are available. This product is of NORMALLY OPEN type with a compact design. The product options include TTL, suppression diodes, indicators, etc.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	225g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	260	160	140	100

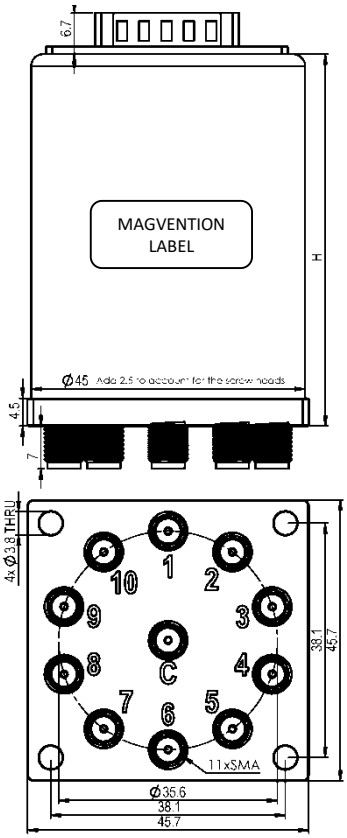
Other options are available upon request.

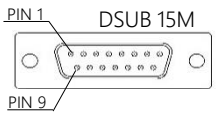
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-4	1.2	0.2	70
4-8	1.3	0.3	65
8-12	1.4	0.4	60
12-18	1.6	0.6	55

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.





1PnT PORT CONFIGURATIONS										
1PnT	Ports Used									
1P10T	1	2	3	4	5	6	7	8	9	10
1P9T	1	2	3	4	5	6	7	8	9	
1P8T		2	3	4	5		7	8	9	10

Note: “Blank” represents the unused RF and corresponding control ports.

MCJ8-,1P8T SWITCH
MCJ9-,1P9T SWITCH
MCJ10-,1P10T SWITCH

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	Vn (Jn-COM)
11	COM(-)
12-15	UNUSED

NORMALLY OPEN with TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
11	COM(-)
12-14	UNUSED
15	+VDC

Pin 1-10: The corresponding control signal inputs.

H	Solder Pin	DSUB
Standard	54.5	60.5
TTL	54.5	70.5
Indicator		

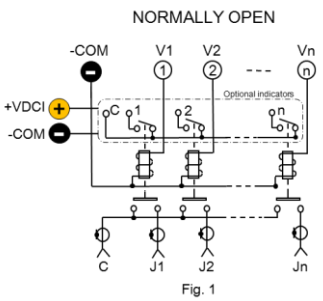


Fig. 1

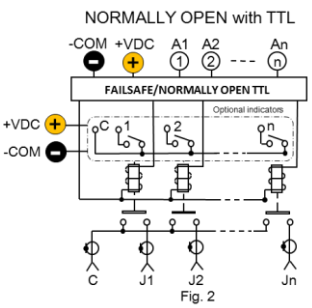


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MCJn: n=7-10 (e.g., n=10 for 1P10T)

NORMALLY OPEN

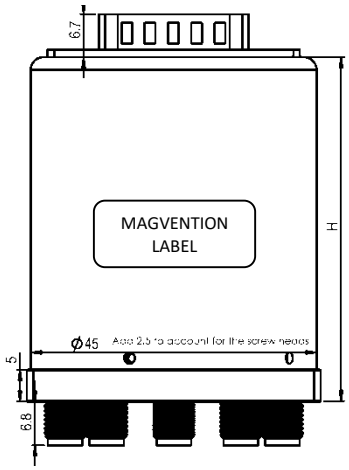
The **MCJ10-K26** series features K connectors and an operation frequency range of DC to 26.5 GHz. Higher frequency ranges are available. This product is of NORMALLY OPEN type with a compact design. The product options include TTL, suppression diodes, indicators, etc.

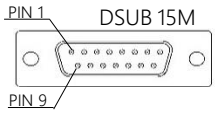
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	225g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	260	160	140	100

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.3	0.3	85
3-10	1.4	0.4	80
10-18	1.6	0.6	60
18-26.5	1.8	0.8	60

Other options are available upon request.





Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max “ON” resistance: 16Ω

Note: +VDC and -C must be connected to operate.

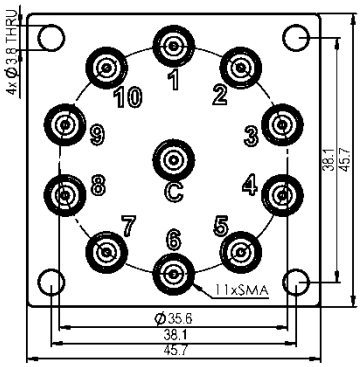
1PnT PORT CONFIGURATIONS										
1PnT	Ports Used									
1P10T	1	2	3	4	5	6	7	8	9	10
1P9T	1	2	3	4	5	6	7	8	9	
1P8T		2	3	4	5		7	8	9	10
1P7T	1	2		4	5		7	8		10

Note: “Blank” represents the unused RF and corresponding control ports.

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	Vn (Jn-COM)
11	COM(-)
12-15	UNUSED

NORMALLY OPEN with TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
11	COM(-)
12-14	UNUSED
15	+VDC

Pin 1-10: The corresponding control signal inputs.



MCJ7-,1P7T SWITCH
MCJ8-,1P8T SWITCH
MCJ9-,1P9T SWITCH
MCJ10-,1P10T SWITCH

Height H Table.

H	Solder Pin	DSUB
Standard	55	61
TTL	55	71
Indicator		

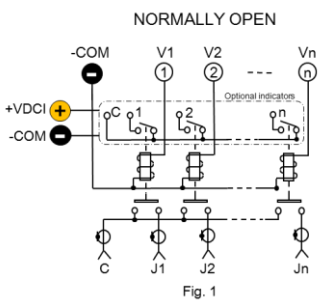


Fig. 1

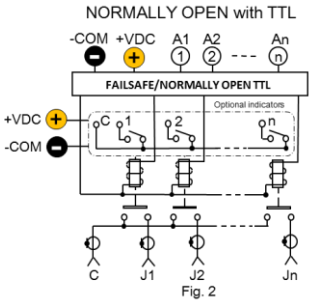


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MC0nT: n=9-10 (e.g., n=10 for 1P10T)

NORMALLY OPEN or LATCHING

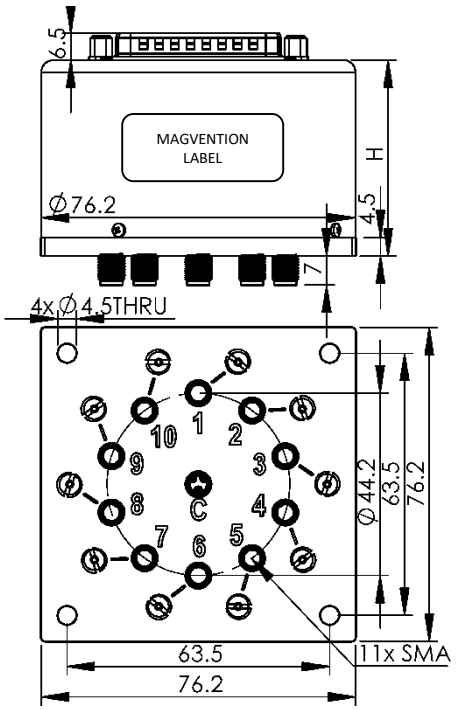
The **MC0nT-S18** product features SMA connectors and an operation frequency range of DC to 18 GHz. This product can be of normally-open or latching type with internal self-terminations. The options include TTL, SELF CUTOFF, and suppression diodes, etc.

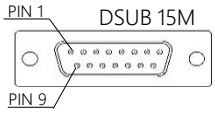
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C (“e” option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	380g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	330	220	167	140
	Latching (set)	290	225	150	120

NOTE: For LATCHING, I(reset) = n x I(set).
Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	80
6-12	1.4	0.4	70
12-18	1.6	0.8	60





MC010-,1P10T SWITCH
MC09-,1P9T SWITCH

1PnT PORT CONFIGURATIONS										
1PnT	Ports Used									
1P10T	1	2	3	4	5	6	7	8	9	10
1P9T	1	2	3	4	5	6	7	8	9	

Note: “Blank” represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	47.5	47.5
TTL	47.5	54.5
Indicator		

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	Vn (Jn-COM)
11	COM(-)
12-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
11	COM(-)
12-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	+ΔVn (Jn-COM)
11	COM(-)
12	+ΔVR (Reset ALL OPEN)
13-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
11	COM(-)
12	AR (Reset ALL OPEN)
13-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	Vn (Jn-COM)
11	COM(-)
12-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
11	COM(-)
12-14	UNUSED
15	+VDC

Pin 1-10: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a “RESET ALL” option is available upon request.

For options with INDICAOTRS, a 26PIN DSUB connector will be provided. Contact factory for the corresponding pin outs.

MC010T-K26

1P10T, Terminated, K, DC-26.5GHz

MC0nT: n=9-10 (e.g., n=10 for 1P10T)

NORMALLY OPEN or LATCHING

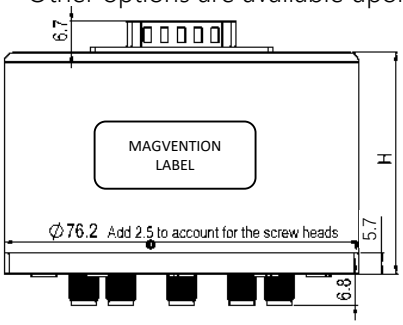
The **MC0nT-K26** product features K connectors and an operation frequency range of DC to 26.5 GHz. This product can be of normally-open or latching type with internal self-terminations. The options include TTL, SELF CUTOFF, and suppression diodes, etc.

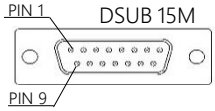
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	380g

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	80
6-12	1.4	0.4	70
12-18	1.6	0.8	60
18-26.5	1.9	0.9	50

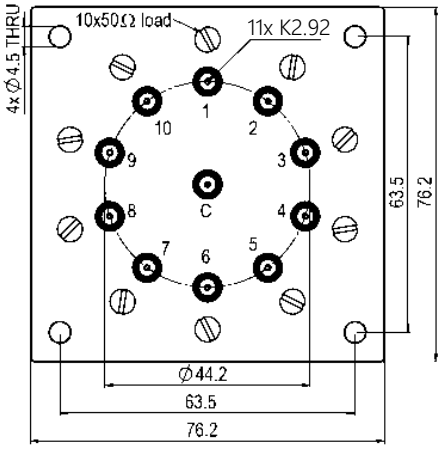
Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	330	220	167	140
	Latching (set)	290	225	150	120

NOTE: For LATCHING, I(reset) = n x I(set).
Other options are available upon request.





MC010-,1P10T SWITCH
MC09-,1P9T SWITCH



Mechanical drawings (unit: mm, tolerance +/-0.5mm).

1PnT PORT CONFIGURATIONS										
1PnT	Ports Used									
1P10T	1	2	3	4	5	6	7	8	9	10
1P9T	1	2	3	4	5	6	7	8	9	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	48.7	48.7
TTL	48.7	55.7
Indicator	48.7	55.7

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	Vn (Jn-COM)
11	COM(-)
12-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
11	COM(-)
12-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	+ΔVn (Jn-COM)
11	COM(-)
12	+ΔVR (Reset ALL OPEN)
13-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
11	COM(-)
12	AR (Reset ALL OPEN)
13-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	Vn (Jn-COM)
11	COM(-)
12-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
11	COM(-)
12-14	UNUSED
15	+VDC

Pin 1-10: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

For options with INDICAOTRS, a 26PIN DSUB connector will be provided. Contact factory for the corresponding pin outs.

MCLn: n=11-12 (e.g., n=12 for 1P12T)

NORMALLY OPEN

The **MCL12** product features SMA connectors and an operation frequency range of DC to 16 GHz. Higher frequency ranges are available. This product is of normally-open type with a compact design. The product options include TTL, suppression diodes, indicators, etc.

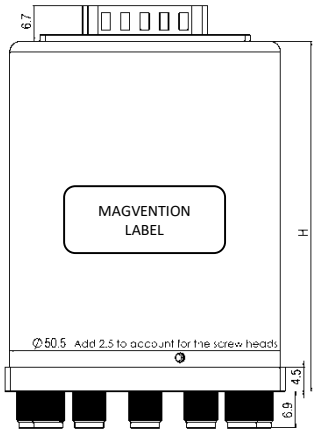
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C –55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	280g

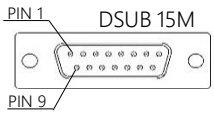
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-4	1.2	0.2	70
4-8	1.4	0.4	65
8-12.4	1.5	0.6	60
12.4-16	1.6	0.6	60

Higher frequency ranges are available upon request.

Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	290	190	150	140

Other options are available upon request.





MCL11-,1P11T SWITCH
MCL12-,1P12T SWITCH

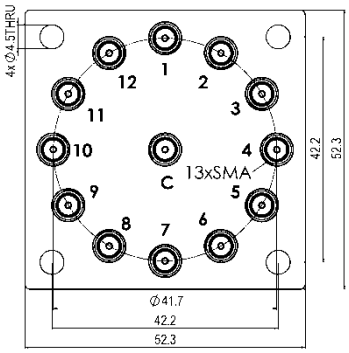
NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	Vn (Jn-COM)
13	COM(-)
14-15	UNUSED

NORMALLY OPEN with TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	An (Jn-COM)
13	COM(-)
14	UNUSED
15	+VDC

Pin 1-10: The corresponding control signal inputs.

1PnT PORT CONFIGURATIONS												
1PnT	Ports Used											
1P12T	1	2	3	4	5	6	7	8	9	10	11	12
1P11T	1	2	3	4	5	6	7	8	9	10	11	

Note: "Blank" represents the unused RF and corresponding control ports.



H	Solder Pin	DSUB
Standard	54.5	60.5
TTL	54.5	70.5
Indicator		70.5

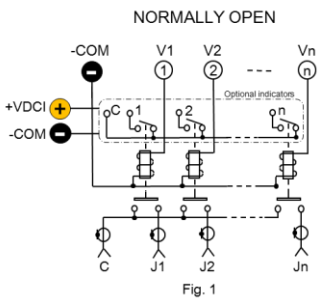


Fig. 1

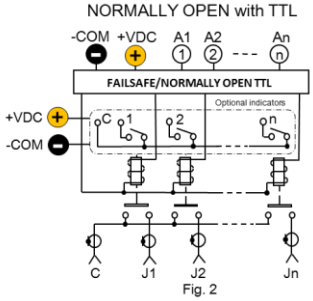


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MCM12T-S18

1P12T, Terminated, SMA, DC-18GHz

MCMnT: n=11-12 (e.g., n=12 for 1P12T)

NORMALLY OPEN or LATCHING

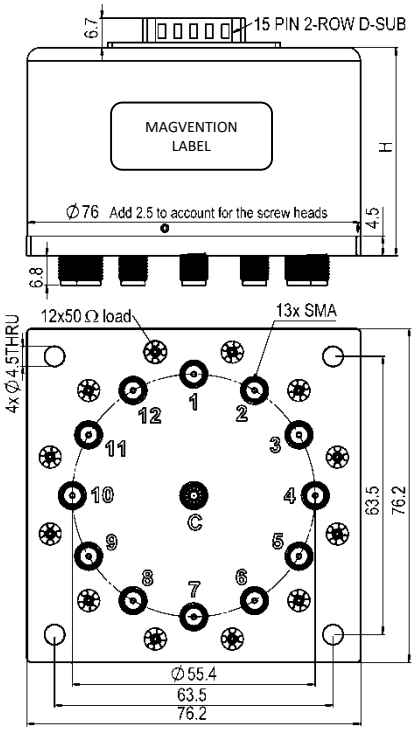
The **MCMnT-S18** product features SMA connectors and an operation frequency range of DC to 18 GHz. This product can be of normally-open or latching type with internal self-terminations. The options include TTL, SELF CUTOFF, and suppression diodes, etc.

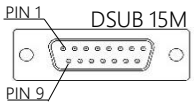
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	3000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	380g

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	330	220	167	140
	Latching (set)	290	225	150	120

NOTE: For LATCHING, I(reset) = n x I(set).
Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	70
6-12	1.5	0.6	60
12-18	1.8	0.8	60





MCM11-,1P11T SWITCH
MCM12-,1P12T SWITCH

1PnT PORT CONFIGURATIONS												
1PnT	Ports Used											
1P12T	1	2	3	4	5	6	7	8	9	10	11	12
1P11T	1	2	3	4	5	6	7	8	9	10	11	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard	47.5	47.5
TTL	47.5	54.5
Indicator	47.5	59.5

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	Vn (Jn-COM)
13	COM(-)
12-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	An (Jn-COM)
13	COM(-)
14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	+ΔVn (Jn-COM)
13	COM(-)
14	+ΔVR (Reset ALL OPEN)
15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-10	An (Jn-COM)
13	COM(-)
14	AR (Reset ALL OPEN)
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	Vn (Jn-COM)
13	COM(-)
14-15	UNUSED
15	+VDC

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	An (Jn-COM)
13	COM(-)
14	UNUSED
15	+VDC

Pin 1-12: The corresponding control signal inputs.

Note: For the SELF CUTOFF, a "RESET ALL" option is available upon request.

For options with INDICAOTRS, a 26PIN DSUB connector will be provided. Contact factory for the corresponding pin outs.

MCGn: n=9-12 (e.g., n=12 for 1P12T)

NORMALLY OPEN

The **MCG12-N** product features 1P12T with N-type connectors and an operation frequency range from DC to 1 GHz. This product is of normally-open type. The options include TTL, suppression diodes, indicators, and low PIM. The product typically comes with a DB15M socket.

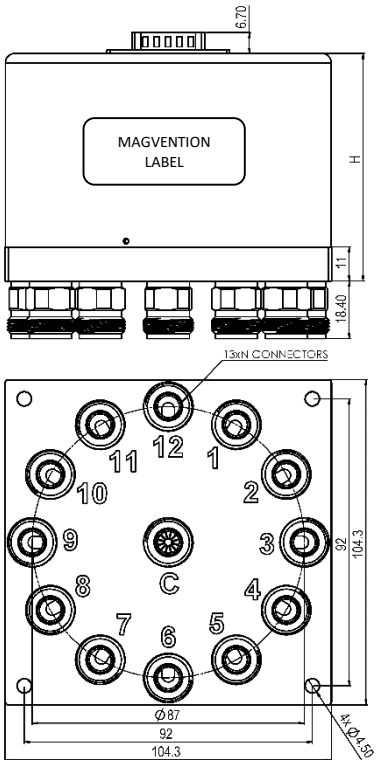
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	

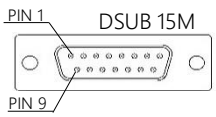
Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-1	1.2	0.20	70

Higher frequency ranges are available upon request.

Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	120	90	95	60

Other options are available upon request.





MCG12-,1P12T SWITCH
MCG11-,1P11T SWITCH
MCG10-,1P10T SWITCH
MCG9-,1P9T SWITCH

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	Vn (Jn-COM)
13	COM(-)
14-15	UNUSED

NORMALLY OPEN with TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-12	An (Jn-COM)
13	COM(-)
14	UNUSED
15	+VDC

Pin 1-12: The corresponding control signal inputs.

1PnT PORT CONFIGURATIONS												
1PnT	Ports Used											
1P12T	1	2	3	4	5	6	7	8	9	10	11	12
1P11T	1	2	3	4	5	6	7	8	9	10	11	
1P10T	1	2	3		5	6	7	8	9		11	12
1P9T	1	2	3		5	6	7		9	10	11	

Note: "Blank" represents the unused RF and corresponding control ports.

H	Solder Pin	DSUB
Standard		73
TTL		83
Indicator		

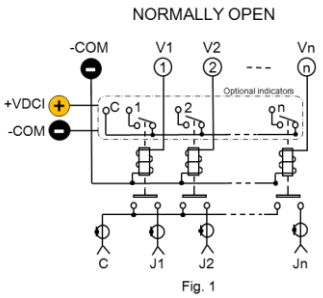


Fig. 1

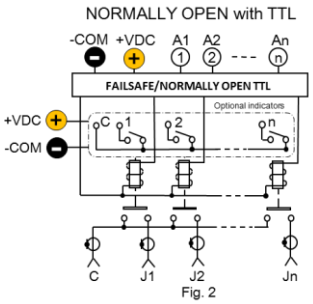


Fig. 2

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

MCRn: n=13-18 (e.g., n=18 for 1P18T)

NORMALLY OPEN

The **MCR18** product features SMA connectors and an operation frequency range of DC to 3 GHz. Higher frequency ranges are available. This product is of normally-open type with a compact design. The product options include TTL, BCD, suppression diodes, indicators, etc.

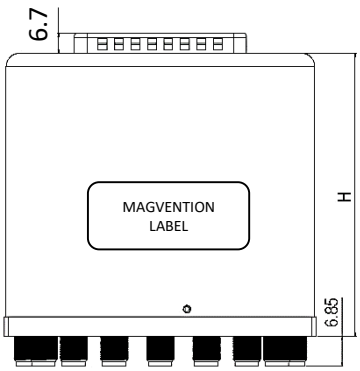
Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	2000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	450g

Voltage (VDC)		12	18	24	28
Current (mA)	NORMALLY OPEN	290	190	150	140

Other options are available upon request.

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-1	1.15	0.15	90
1-3	1.30	0.30	80

Higher frequency ranges are available upon request.

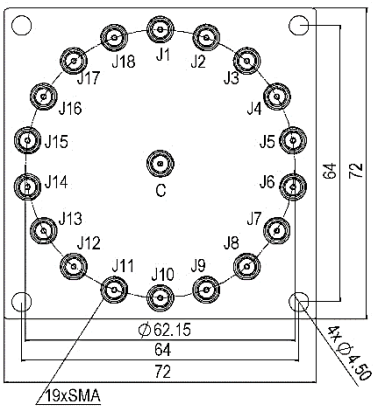


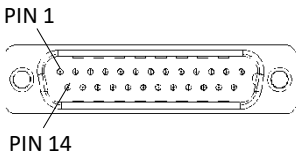
1PnT PORT CONFIGURATIONS																		
1PnT	Ports Used																	
1P18T	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1P17T	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1P16T	1	2	3	4	5	6	7	8		10	11	12	13	14	15	16	17	
1P15T	1	2	3	4	5		7	8	9	10	11		13	14	15	16	17	
1P14T	1	2	3		5	6	7	8		10	11	12	13		15	16	17	
1P13T	1	2		4	5	6		8	9	10		12	13	14		16	17	

Note: "Blank" represents the unused RF and corresponding control ports.

A 2-row 25-pin D-sub male connector will be provided.

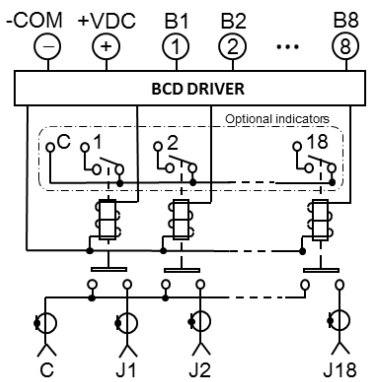
25-PIN D-SUB PINOUT	
Pin No.	PINOUT
1	B1
2	B2
3	B3
4	B4
5	B5
6	B6
7	B7
8	B8
9	COM(-)
10-24	UNUSED
25	+VDC





A BCD DRIVING INTERFACE WILL BE PROVIDED FOR THE "-5" OPTION.

H = 70.5

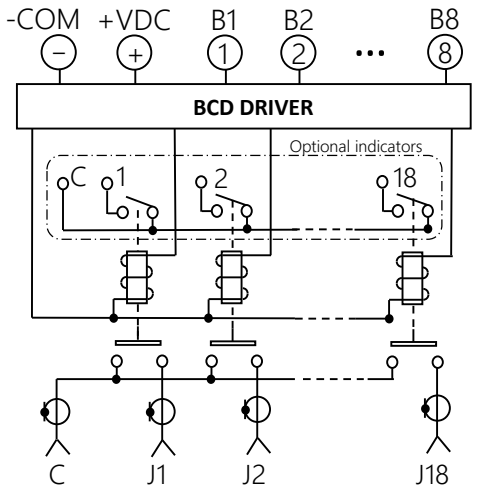


Mechanical drawings (unit: mm, tolerance +/-0.5mm).

HIGH LOGIC BCD TRUTH TABLE								
B8	B7	B6	B5	B4	B3	B2	B1	Position Activated
1	1	1	1	0	0	0	0	1
1	1	1	1	0	0	0	1	2
1	1	1	1	0	0	1	0	3
1	1	1	1	0	0	1	1	4
1	1	1	1	0	1	0	0	5
1	1	1	1	0	1	0	1	6
1	1	1	1	0	1	1	0	7
1	1	1	1	0	1	1	1	8
1	1	1	1	1	0	0	0	9
0	0	0	0	1	1	1	1	10
0	0	0	1	1	1	1	1	11
0	0	1	0	1	1	1	1	12
0	0	1	1	1	1	1	1	13
0	1	0	0	1	1	1	1	14
0	1	0	1	1	1	1	1	15
0	1	1	0	1	1	1	1	16
0	1	1	1	1	1	1	1	17
1	0	0	0	1	1	1	1	18
1	1	1	1	1	1	1	1	None
Open	Open	Open	Open	Open	Open	Open	Open	None

NOTE: Logic input B(n): low "0" = 0.0V – 1.5V(max); high "1" = 3.5V(min) – 5.5V.

NOTE: All BCD inputs shown in the Pin-Out Table must be controlled. Switch will not function if any BCD inputs are floating.



MCA4-C05

1P4T, SC, DC-5GHz

MCAn: n=3-4 (e.g., n=4 for 1P4T)

NORMALLY OPEN or LATCHING

The **MCA4-C05** product features SC connectors and an operation frequency range of DC to 5 GHz. This product can be of normally-open or latching type. The options include TTL, SELF CUTOFF, and suppression diodes, etc.

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	20msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–55°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-3	1.3	0.3	70
3-5	1.5	0.5	60

Voltage (VDC)		12	18	24	28
Current (mA)	Normally Open	310	250	170	130
	Latching (set)	380	300	210	180

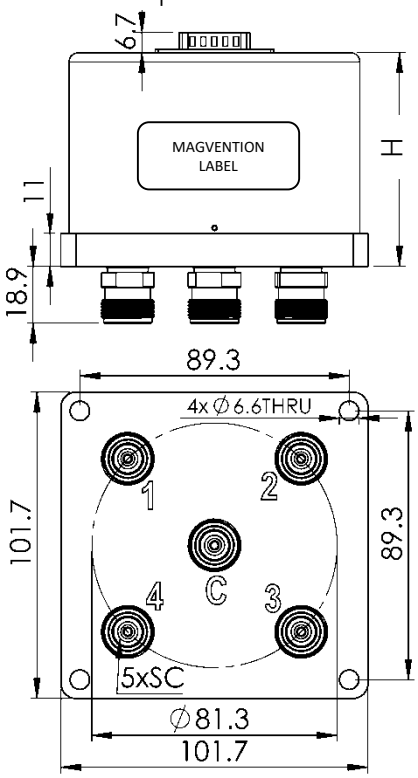
Other options are available upon request.

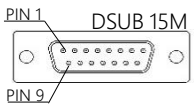
OPTIONAL INDICATOR	
Pin No.	PINOUT
7	1 (IND: J1-C)
8	2 (IND: J2-C)
9	3 (IND: J3-C)
10	4 (IND: J4-C)
11	COM_I
15	+VDCI

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.





MCA4-,1P4T SWITCH
MCA3-,1P3T SWITCH

1PnT PORT CONFIGURATIONS				
1PnT	Ports Used			
1P4T	1	2	3	4
1P3T	1	2	3	

Note: "Blank" represents the unused RF and corresponding control ports.

H = 71 (max)

NORMALLY OPEN 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-4	Vn (Jn-COM)
5	COM(-)
6-15	UNUSED

NORMALLY OPEN TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-4	An (Jn-COM)
5	COM(-)
6-14	UNUSED
15	+VDC

LATCHING (PULSE) 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-4	+ΔVn (Jn-COM)
5	COM(-)
6	+ΔVR (Reset ALL OPEN)
7-15	UNUSED

LATCHING TTL 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-4	An (Jn-COM)
5	COM(-)
6	AR (Reset ALL OPEN)
7-14	UNUSED
15	+VDC

LATCHING SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-4	Vn (Jn-COM)
5	COM(-)
6-15	UNUSED

LATCHING TTL&SELF CUTOFF 15-PIN D-SUB PINOUT	
Pin No.	PINOUT
n=1-4	An (Jn-COM)
5	COM(-)
6-14	UNUSED
15	+VDC

Pin 1-4: The corresponding control signal inputs.

Mechanical drawings (unit: mm, tolerance +/-0.5mm).

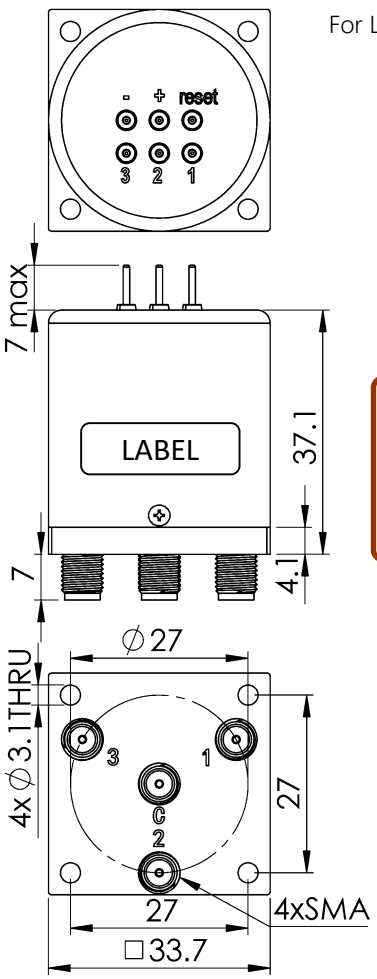
Compact design LATCHING

Specifications	
Contact Material	Plated Au
Switching Sequence	Break before Make
Switching Time (max)	15msec
Impedance	50Ω
Temperature Range	–25°C to +65°C
	–45°C to +85°C ("e" option)
Relative Humidity	5 to 85%
Operation Life (cycles)	1000000
Vibration Operating	10G RMS, 20-2000Hz
Mechanical Shock (non-operating)	50G, 1/2 Sine, 11msec
Weight (approx.)	

Frequency Range (GHz)	VSWR (max)	Insertion Loss (dB) (max)	Isolation (dB) (min)
DC-6	1.3	0.3	80
6-12	1.4	0.4	70
12-18	1.5	0.5	60

Voltage (VDC)					28
Current (mA)	Latching				160

For LATCHING, I(reset) = n x I(set).



Mechanical drawings (unit: mm, tolerance +/-0.5mm).

Optional Indicator Specifications

Max withstand voltage: 60V
Max current capacity: 100mA
Max "ON" resistance: 16Ω

Note: +VDC and -C must be connected to operate.

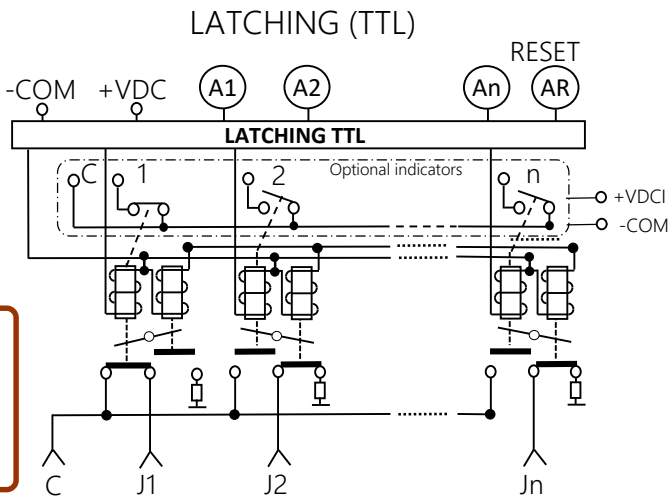


Fig. 2

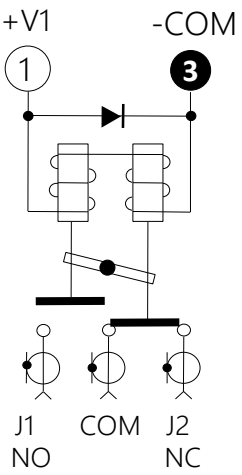
TRUTH TABLE LATCHING with TTL (Fig. 2)

RF PATH	A(n)	AR
J(n) - C	1	0
ALL J(n) - Open	0	1

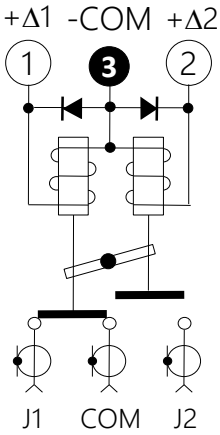
NOTE:
1) TTL logic input A(n): low "0" = 0.0V – 0.8V; high "1" = 2.4V – 5.5V.
2) A pulse input is expected. Prolonged high inputs may generate excessive heat and damage the switch.

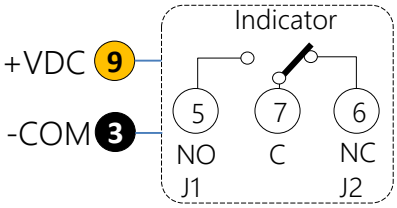
SP2T

Failsafe

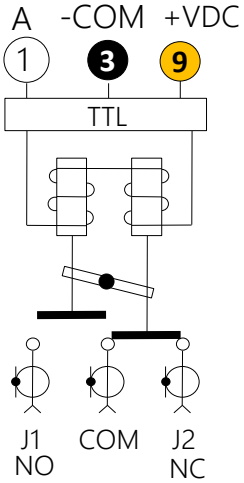


Pulse Latching



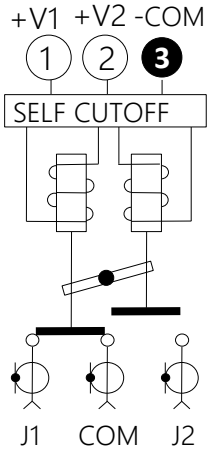


Failsafe TTL



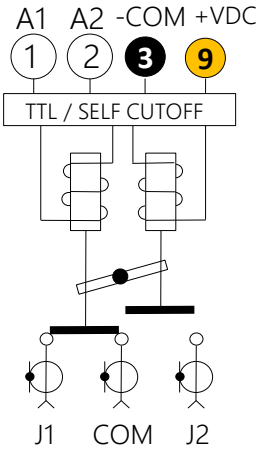
Self Cutoff

(latching only)



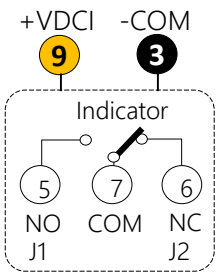
TTL and Self Cutoff

(latching only)



NOTE: (1) TTL logic: low "0" = 0.0V – 0.8V; high "1" = 2.4V – 5.5V.
(2) –C = GROUND; +VDC = +Rated Voltage.
(3) Optional: +VDCI= +RATED VOLTAGE (for optional optoelectronic indicators).
(4) "T"=50Ω termination.
(5) "NC"=Normally Closed; "NO"=Normally Open.
(6) Consult the factory for the positive COM option.

FAILSAFE



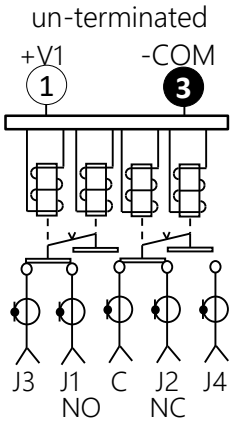


Fig. 1

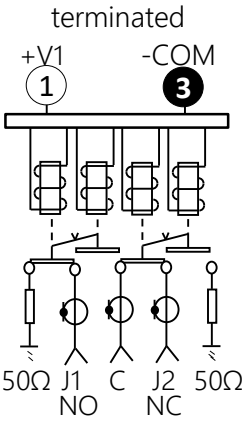


Fig. 2

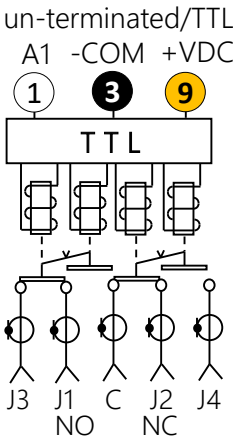


Fig. 3

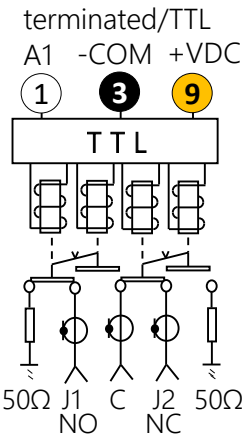
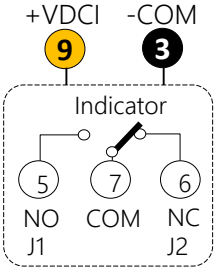


Fig. 4

LATCHING



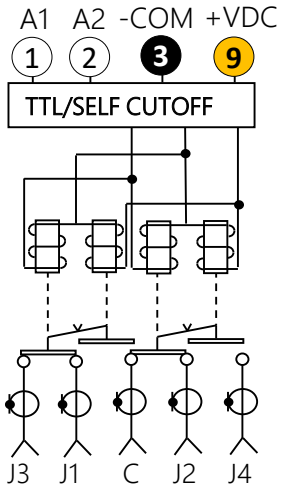


Fig. 5

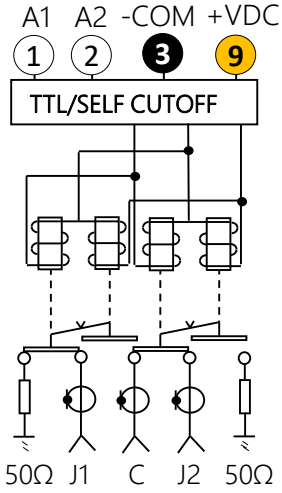


Fig. 6

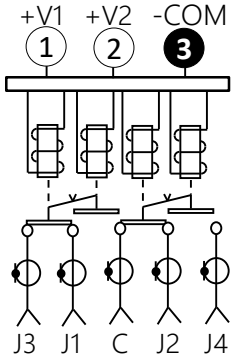


Fig. 7

LOGIC TRUTH TABLE

FAILSAFE (Figs. 1 and 2)

RF PATH	+V1	-COM
J1-C、J2-J4(T)	+VDC	GND
J2-C、J1-J3(T)	0	GND

NOTE: +VDC=Positive rated voltage.

PULSE LATCHING (Fig. 7)

RF PATH	+V1	+V2
J1-C、J2-J4(T)	+ΔV	0
J2-C、J1-J3(T)	0	+ΔV

NOTE: +ΔV=Positive rated voltage pulse.

FAILSAFE TTL (Figs. 3 and 4)

RF PATH	A
J1-C、J2-J4(T)	1
J2-C、J1-J3(T)	0

LATCHING TTL/SELF CUTOFF (Figs. 5-6)

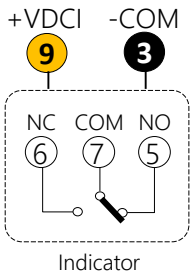
RF PATH	A1	A2
J1-C、J2-J4(T)	1	0
J2-C、J1-J3(T)	0	1

NOTE: +ΔV=Positive rated voltage pulse.

NOTE: (1) TTL logic: low "0" = 0.0V – 0.8V; high "1" = 2.4V – 5.5V.
(2) –C = GROUND; +VDC = +Rated Voltage.
(3) Optional: +VDCI= +RATED VOLTAGE (for optional optoelectronic indicators).
(4) "T"=50Ω termination.
(5) "NC"=Normally Closed; "NO"=Normally Open.
(6) Consult the factory for the positive COM option.

MC5, MC7

FAILSAFE



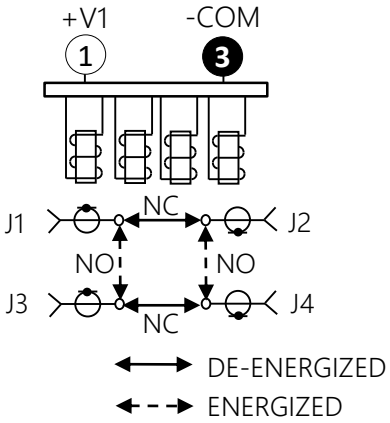


Fig. 1

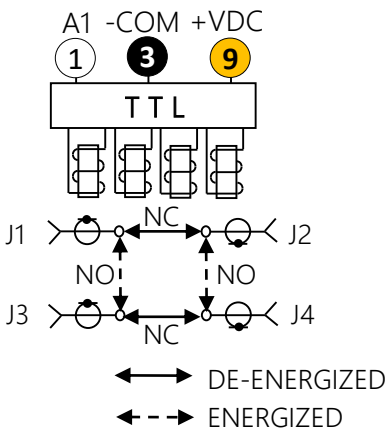
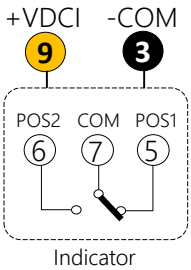


Fig. 2

LATCHING



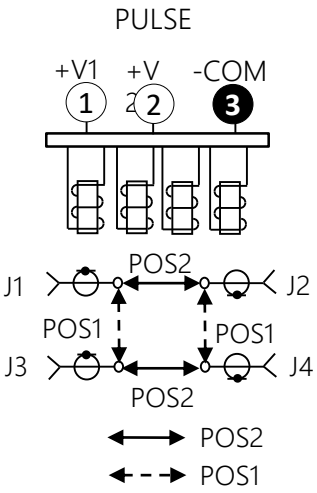


Fig. 3

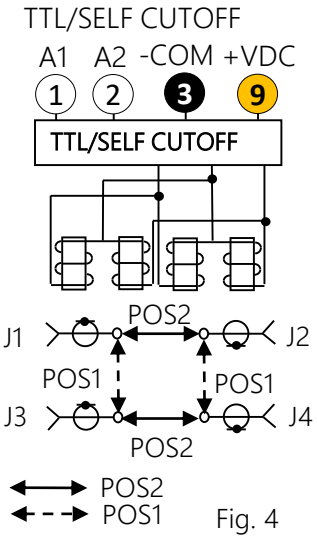


Fig. 4

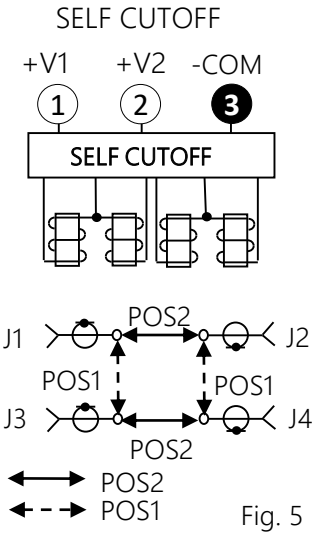


Fig. 5

LOGIC TRUTH TABLE

FAILSAFE (Figs. 1)

	RF PATH	+V1	-COM
POS1	J1-J2, J3-J4	0	GND
POS2	J1-J3, J2-J4	+VDC	GND

NOTE: +VDC=Positive rated voltage.

PULSE LATCHING (Fig. 3)

	RF PATH	+V1	+V2
POS1	J1-J3, J2-J4	+ΔV	0
POS2	J1-J2, J3-J4	0	+ΔV

NOTE: +ΔV=Positive rated voltage pulse.

FAILSAFE TTL (Figs. 2)

	RF PATH	A
POS1	J1-J2, J3-J4	0
POS2	J1-J3, J2-J4	1

LATCHING TTL/SELF CUTOFF (Fig. 4)

	RF PATH	A1	A2
POS1	J1-J3, J2-J4	1	0
POS2	J1-J2, J3-J4	0	1

LATCHING SELF CUTOFF (Fig. 5)

	RF PATH	IND PATH	+V1	+V2
POS1	J1-J3, J2-J4	IND1-C	+VDC	0
POS2	J1-J2, J3-J4	IND2-C	0	+VDC

NOTE: (1) TTL logic: low "0" = 0.0V – 0.8V; high "1" = 2.4V – 5.5V.
(2) "NC"=Normally Closed; "NO"=Normally Open.
(3) Consult the factory for the positive COM option.

MC3, MC6, MC9, MCH, MCJ, MCG, MCL, MCR

NORMALLY OPEN

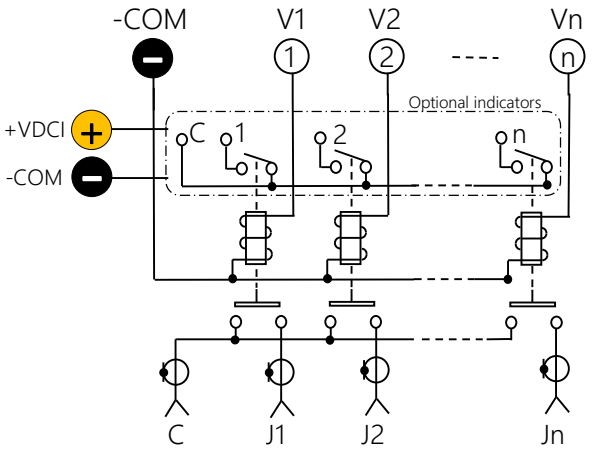


Fig. 1

NORMALLY OPEN with TTL

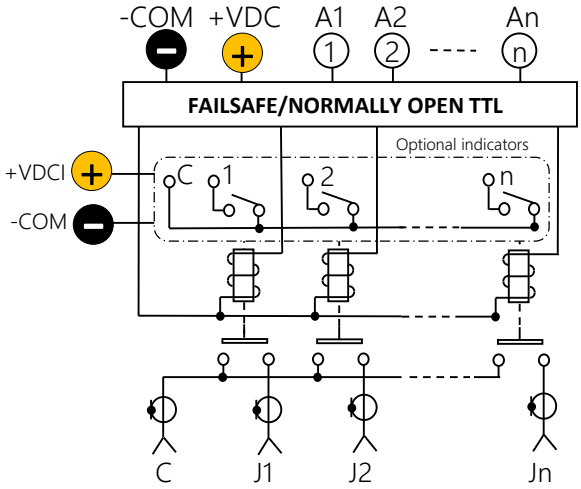


Fig. 2

LOGIC TRUTH TABLE

NORMALLY OPEN (Fig. 1)

RF PATH	V(n)	COM
J(n)-C	Rated +V	GND
J(n) Open	0	GND

NORMALLY OPEN with TTL (Fig. 2)

RF PATH	A(n)	+VDC	COM
J(n)-C	1	Rated +V	GND
J(n) Open	0	Rated +V	GND

NOTE: (1) TTL logic input A(n): low "0" = 0.0V – 0.8V; high "1" = 2.4V – 5.5V.

NORMALLY OPEN (Fig. 1)

15-PIN D-SUB PINOUT	
Pin No.	PINOUT
1	V1 (J1-COM)
2	V2 (J2-COM)
3	V3 (J3-COM)
4	V4 (J4-COM)
5	V5 (J5-COM)
6	V6 (J6-COM)
7	V7 (J7-COM)
8	V8 (J8-COM)
9	V9 (J9-COM)
10	V10 (J10-COM)
11	V11 (J11-COM)
12	V12 (J12-COM)
13	COM(-)
14-15	UNUSED

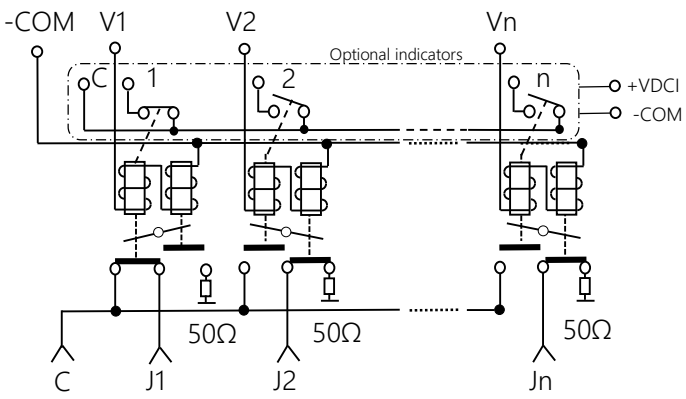
NORMALLY OPEN with TTL (Fig. 2)

15-PIN D-SUB PINOUT	
Pin No.	PINOUT
1	A1 (J1-COM)
2	A2 (J2-COM)
3	A3 (J3-COM)
4	A4 (J4-COM)
5	A5 (J5-COM)
6	A6 (J6-COM)
7	A7 (J7-COM)
8	A8 (J8-COM)
9	A9 (J9-COM)
10	A10 (J10-COM)
11	A11 (J11-COM)
12	A12 (J12-COM)
13	COM(-)
14	UNUSED
15	+VDC

with or without Terminations

MCF, MC8, MC0, MCM (NORMALLY OPEN)

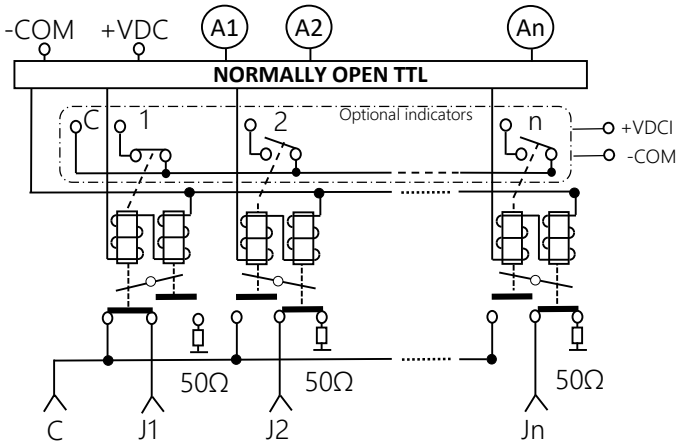
NORMALLY OPEN



Normally open on each unused position.

Fig. 1

NORMALLY OPEN with TTL



Normally open on each unused position.

Fig. 2

LOGIC TRUTH TABLE

NORMALLY OPEN (Fig. 1)

RF PATH	V(n)	COM
J(n)-C	+VDC	GND
J(n)-T or Open	0	GND

NORMALLY OPEN with TTL (Fig. 2)

RF PATH	A(n)	+VDC	COM
J(n)-C	1	Rated +V	GND
J(n)-T or Open	0	Rated +V	GND

NOTE: (1) TTL logic input A(n): low "0" = 0.0V – 0.8V; high "1" = 2.4V – 5.5V.
(2) +VDC=Rated voltage.

with or without Terminations

MCF, MC8, MC0, MCM (LATCHING)

LATCHING (Pulse)

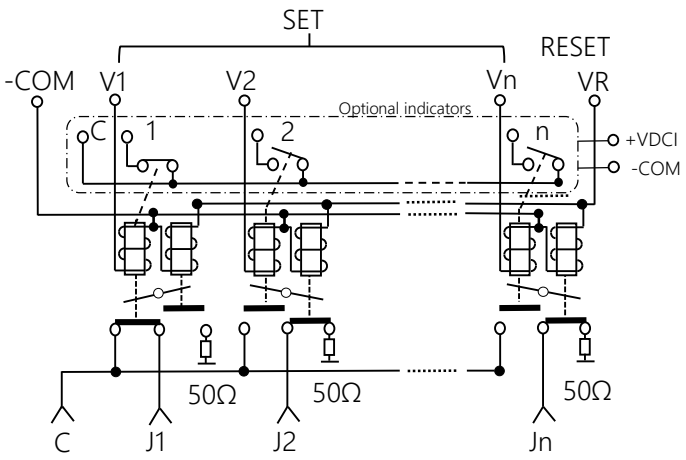


Fig. 1

LATCHING (TTL)

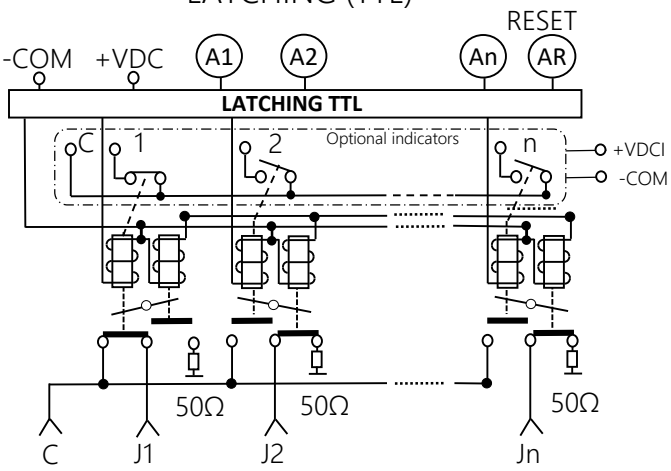


Fig. 2

LATCHING (SELF CUTOFF)

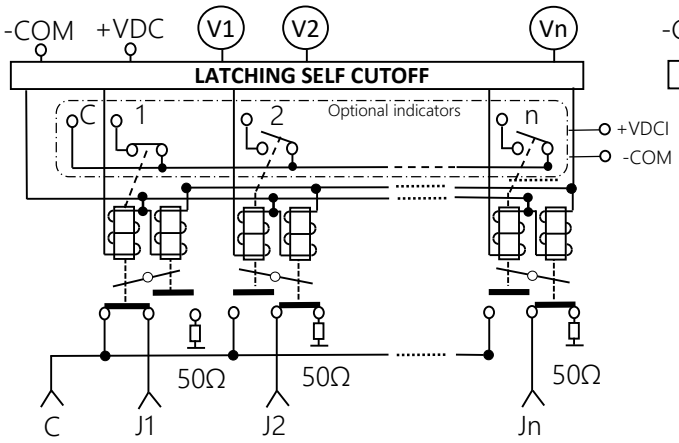


Fig. 3

LATCHING (TTL SELF CUTOFF)

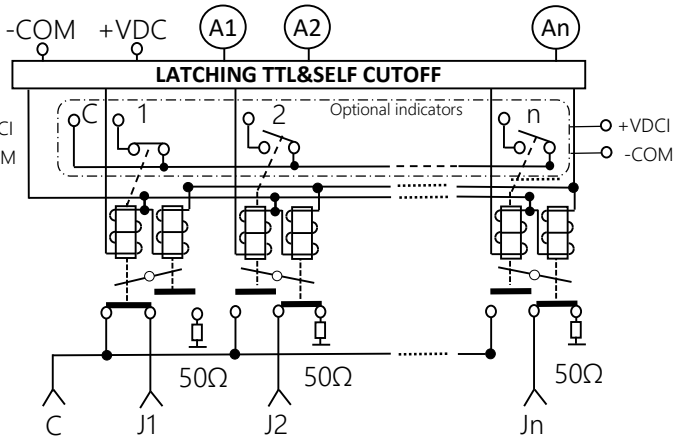


Fig. 4

LOGIC TRUTH TABLE

LATCHING (Pulse) (Fig. 1)

RF PATH	V(n)	VR
J(n)-C	+ΔV	GND
ALL J(n)-T or Open	GND	+ΔV

LATCHING with TTL (Fig. 2)

RF PATH	A(n)	AR
J(n)-C	1	0
ALL J(n)-T or Open	0	1

LATCHING (SELF CUTOFF) (Fig. 3)

RF PATH	V(n)
J(n)-C	+VDC
J(n)-T or Open	GND

LATCHING with TTL & SELF CUTOFF (Fig. 4)

RF PATH	A(n)
J(n)-C	1
J(n)-T or Open	0

NOTE: (1) TTL logic input A(n): low "0" = 0.0V – 0.8V; high "1" = 2.4V – 5.5V.
(2) +VDC=Rated voltage; +ΔV=Pulse of rated voltage.

with or without Terminations

MCF, MC8, MC0, MCM (LATCHING)

LATCHING (SELF CUTOFF with RESET-ALL)

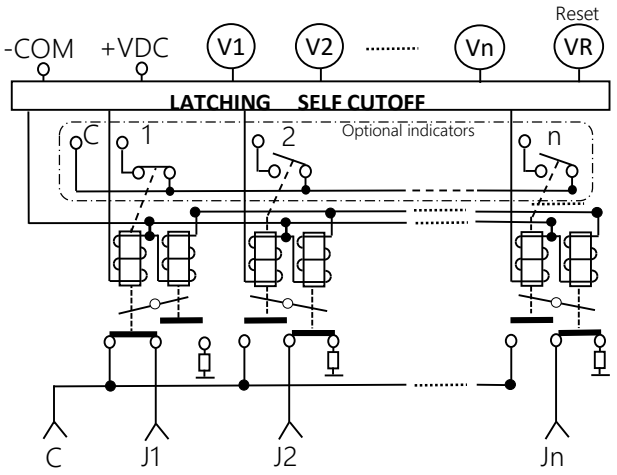


Fig. 1

LATCHING (SELF CUTOFF with auto-RESET)

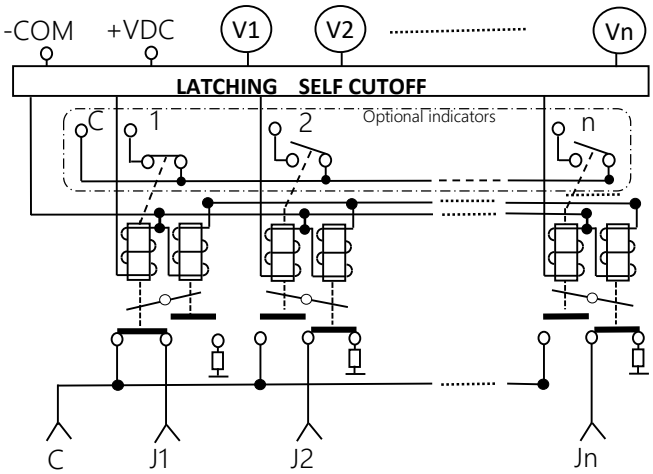


Fig. 1

LATCHING (TTL SELF CUTOFF with RESET-ALL)

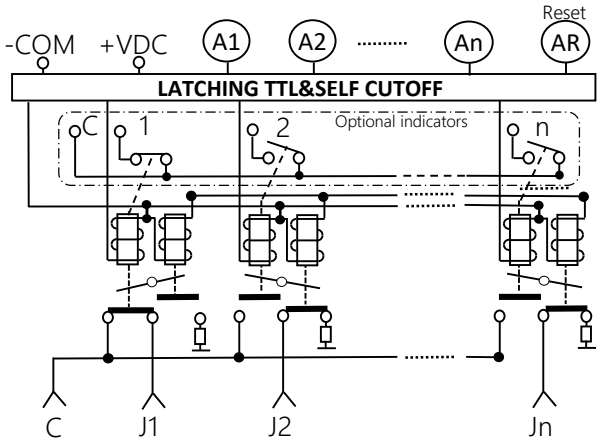


Fig. 3

LATCHING (TTL SELF CUTOFF with auto-RESET)

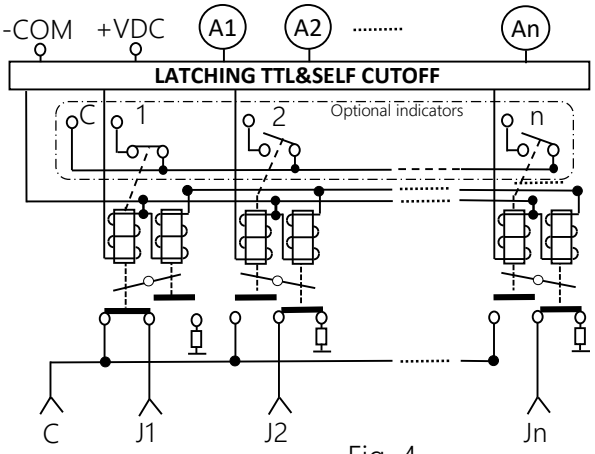


Fig. 4

LOGIC TRUTH TABLE

LATCHING (SELF CUTOFF with RESET-ALL) (Fig. 1)

RF PATH	V(n)	VR	-COM	+VDC
J(n)-C	Rated +V	GND	GND	Rated +V
J(n)-T or Open	GND	Rated +V	GND	Rated +V

LATCHING (SELF CUTOFF with auto-RESET) (Fig. 2)

RF PATH	V(n)	-COM	+VDC
J(n)-C	Rated +V	GND	Rated +V
J(n)-T or Open	GND	GND	Rated +V

LATCHING (TTL SELF CUTOFF with RESET-ALL) (Fig. 3)

RF PATH	A(n)	AR	-COM	+VDC
J(n)-C	1	0	GND	Rated +V
J(n)-T or Open	0	1	GND	Rated +V

LATCHING (TTL SELF CUTOFF with auto-RESET) (Fig. 4)

RF PATH	A(n)	-COM	+VDC
J(n)-C	1	GND	Rated +V
J(n)-T or Open	0	GND	Rated +V

NOTE: (1) TTL logic input A(n): low "0" = 0.0V – 0.8V; high "1" = 2.4V – 5.5V.
(2) +VDC=Rated voltage; +ΔV=Pulse of rated voltage.

PIN OUT TABLE

SOLDER/DSUB PIN CONNECTION TABLE			MC1/MC2/MC4: 1P2T / 2P3T								
			PIN NUMBER								
INDEX	5. RELAY FUNCTION	7. ACTUATOR TYPE	1	2	3	4	5	6	7	8	9
							INDICATOR				
A	F (or N): FAILSAFE	0,4: NO TTL	+V1		-COM						+VDCI
B		1: TTL	A1		-COM						+VDC
C	L: LATCHING	0,4: NO TTL	+ΔV1	+ΔV2	-COM		1	2	COM_I		+VDC
D		1: TTL	ΔA1	ΔA2	-COM						+VDC
E		2: SELF CUTOFF	+V1	+V2	-COM						+VDC
F		3: TTL&SELF CUTOFF	A1	A2	-COM						+VDC

DSUB OR SOLDER PIN CONNECTION TABLE			MC5/MC7: 2P2T								
			PIN NUMBER								
INDEX	5. RELAY FUNCTION	7. ACTUATOR TYPE	1	2	3	4	5	6	7	8	9
							INDICATOR				
A	F (or N): FAILSAFE	0,4: NO TTL	+V1		-COM						+VDC
B		1: TTL	A1		-COM						+VDC
C	L: LATCHING	0,4: NO TTL	+ΔV1	+ΔV2	-COM		1	2	COM_I		+VDC
D		1: TTL	ΔA1	ΔA2	-COM						+VDC
E		2: SELF CUTOFF	+V1	+V2	-COM						+VDCI
F		3: TTL&SELF CUTOFF	A1	A2	-COM						+VDC

DSUB OR SOLDER PIN CONNECTION TABLE			MC3/MCF/MC6: 1P6T														
INDEX	5. RELAY FUNCTION	7. ACTUATOR TYPE	PIN NUMBER														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
										INDICATOR (OPTIONAL)							
A	N: N. OPEN	0,4: NO TTL	+V1	+V2	+V3	+V4	+V5	+V6	-COM								+VDCI
B		1: TTL	A1	A2	A3	A4	A5	A6	-COM								+VDC
C	L: LATCHING	0,4: NO TTL	+ΔV1	+ΔV2	+ΔV3	+ΔV24	+ΔV5	+ΔV6	-COM	1	2	3	4	5	6	COM_I	+VDCI
D		1: TTL	ΔA1	ΔA2	ΔA3	ΔA4	ΔA5	ΔA6	-COM								+VDC
E		2: SELF CUTOFF	+V1	+V2	+V3	+V4	+V5	+V6	-COM								+VDCI
F		3: TTL&SELF CUTOFF	A1	A2	A3	A4	A5	A6	-COM								+VDC

DSUB OR SOLDER PIN CONNECTION TABLE			MC8/MC9/MCH: 1P8T											
INDEX	5. RELAY FUNCTION	7. ACTUATOR TYPE	PIN NUMBER											
			1	2	3	4	5	6	7	8	9	10	11-14	15
A	N: N. OPEN	0,4: NO TTL	+V1	+V2	+V3	+V4	+V5	+V6	+V7	+V8	-COM			+VDCI
B		1: TTL	A1	A2	A3	A4	A5	A6	A7	A8	-COM			+VDC
C	L: LATCHING	0,4: NO TTL	+ΔV1	+ΔV2	+ΔV3	+ΔV24	+ΔV5	+ΔV6	+ΔV7	+ΔV8	-COM	+ΔVR		+VDCI
D		1: TTL	ΔA1	ΔA2	ΔA3	ΔA4	ΔA5	ΔA6	ΔA7	ΔA8	-COM	ΔAR		+VDC
E		2: SELF CUTOFF	+V1	+V2	+V3	+V4	+V5	+V6	+V7	+V8	-COM			+VDCI
F		3: TTL&SELF CUTOFF	A1	A2	A3	A4	A5	A6	A7	A8	-COM			+VDC

DSUB OR SOLDER PIN CONNECTION TABLE			MC0/MCJ: 1P10T												
INDEX	5. RELAY FUNCTION	7. ACTUATOR TYPE	PIN NUMBER												
			1	2	3	4	5	6	7	8	9	10	11	12-14	15
A	N: N. OPEN	0,4: NO TTL	+V1	+V2	+V3	+V4	+V5	+V6	+V7	+V8	+V9	+V10	-COM		+VDCI
B		1: TTL	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	-COM		+VDC
C	L: LATCHING	0,4: NO TTL	+ΔV1	+ΔV2	+ΔV3	+ΔV24	+ΔV5	+ΔV6	+ΔV7	+ΔV8	+ΔV9	+ΔV10	-COM		+VDCI
D		1: TTL	ΔA1	ΔA2	ΔA3	ΔA4	ΔA5	ΔA6	ΔA7	ΔA8	ΔA9	ΔA10	-COM		+VDC
E		2: SELF CUTOFF	+V1	+V2	+V3	+V4	+V5	+V6	+V7	+V8	+V9	+V10	-COM		+VDCI
F		3: TTL&SELF CUTOFF	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	-COM		+VDC

DSUB OR SOLDER PIN CONNECTION TABLE			MCL/MCG/MCM: 1P12T														
INDEX	5. RELAY FUNCTION	7. ACTUATOR TYPE	PIN NUMBER														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	N: N. OPEN	0,4: NO TTL	+V1	+V2	+V3	+V4	+V5	+V6	+V7	+V8	+V9	+V10	+V11	+V12	-COM		+VDCI
B		1: TTL	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	-COM		+VDC
C	L: LATCHING	0,4: NO TTL	+ΔV1	+ΔV2	+ΔV3	+ΔV24	+ΔV5	+ΔV6	+ΔV7	+ΔV8	+ΔV9	+ΔV10	+ΔV11	+ΔV12	-COM	+ΔVR	+VDCI
D		1: TTL	ΔA1	ΔA2	ΔA3	ΔA4	ΔA5	ΔA6	ΔA7	ΔA8	ΔA9	ΔA10	ΔA11	ΔA12	-COM	ΔAR	+VDC
E		2: SELF CUTOFF	+V1	+V2	+V3	+V4	+V5	+V6	+V7	+V8	+V9	+V10	+V11	+V12	-COM		+VDCI
F		3: TTL&SELF CUTOFF	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	-COM		+VDC

+Vn = RATED +VDC
+ΔVn = RATED +VDC PULSE
An = LOGIC INPUT
ΔAn = LOGIC INPUT PULSE
+ΔVR = RATED +VDC PULSE FOR RESET
ΔAR = LOGIC INPUT PULSE FOR RESET

Note: -COM=GROUND; +VDC= +RATED VOLTAGE; Optional: +VDCI= +RATED VOLTAGE (for optional optoelectronic indicators).

A 26-pin DSUB connector may be used for multi-position 1PnT (n>6) switches with the indicator option. Contact factory for its corresponding pinouts.

DC - 67GHz

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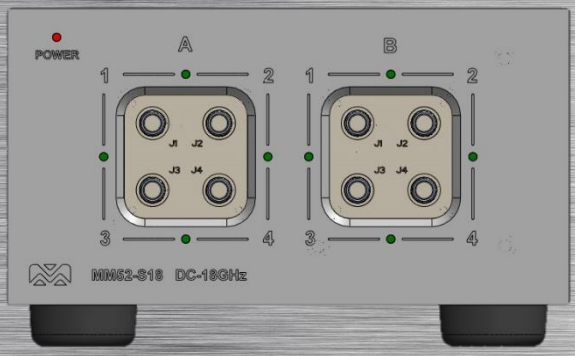
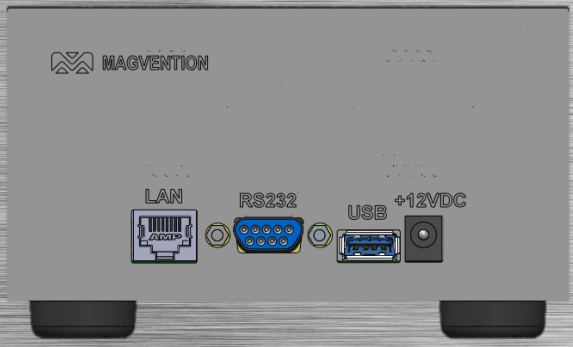
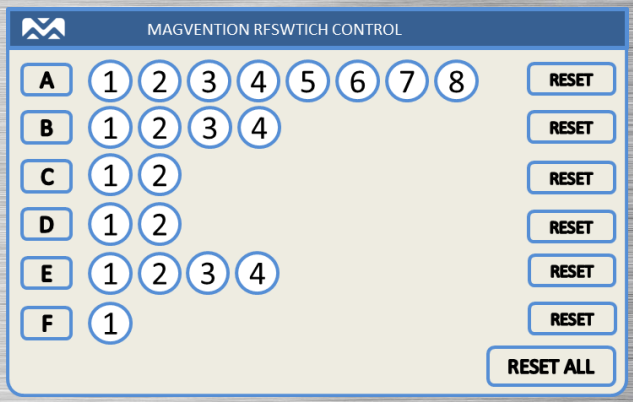




STANDARD or CUSTOM DESIGN

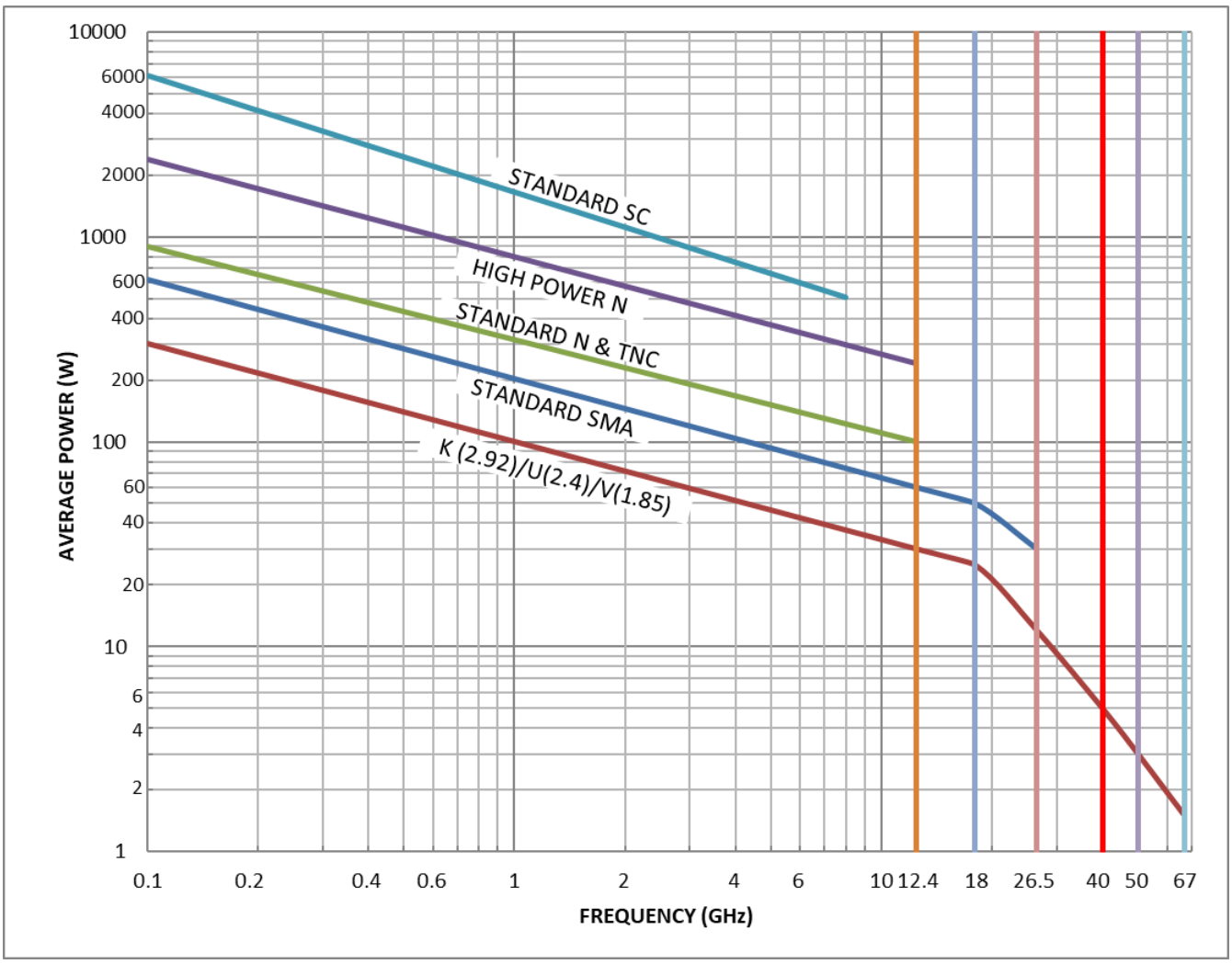
CONTROL PANEL EXAMPLE



MAGVENTION

POWER CHART

POWER CAPACITY VS. FREQUENCY GRAPH
This graph is based on the following conditions:
Ambient temperature 20°C, sea level, VSWR=1:1 and cold switching



VSWR	DERATING FACTOR
1.5 : 1	0.96
2.0 : 1	0.88
2.5 : 1	0.84
3.0 : 1	0.75

VSWR	DERATING FACTOR
3.5 : 1	0.70
4.0 : 1	0.64
4.5 : 1	0.60
5.0 : 1	0.56

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