

Series R

The coaxial relays of the series R and T-R are characterized through excellent RF-specifications and an enormous type variety. More than 100 000 different models can be selected. A short overview of the existing models is shown in the following chapter in this catalogue.

Configurations

Within the one-way and multi-way relays up to seven different basic configurations are available:

- Without any supply voltage the contacts can be normally open (NO), terminated or connected to ground.
- One contact can be normally closed, all others are open, terminated or connected to ground as desired.
- All inputs and/or outputs are normally terminated.

We also offer coaxial transfer and bypass relays with similar configurations. The codes used are:

- RX for transfer relays
- RY for bypass relays

Switch configuration

Available are coaxial 1-way-switches (SPST) to coaxial 12-way-switches (SP12T) as well as coaxial transfer and bypass switches (specials on request).

Impedance

All models can be offered with 50 Ω or 75 Ω impedance.

Frequency range

We offer frequency ranges from DC to 1000MHz or higher (depending on the type).

Coaxial connectors

Following coaxial connectors are available: BNC female, TNC female, SMA female, 1.6/5.6 female and N female. Male RF-connectors are also available on request.

Coil and supply voltage

The coil voltage (control input F, G, C, X) is optional +5 V DC, +12 V DC or +24 V DC. Supply voltage for control inputs L and Z is +5 V DC.

Control inputs

The control input and the coil voltage are connected by means of DC-feedthrough filters or SUB-D connectors on request.



Technical data (guaranted values at +25 °C)

Switching time	10 ms max.
Life cycles	10 ⁶ cycles
Operating temperature	0 to 50 °C (-55 to +85 °C on request)
Maximum RF-power unterminated terminated	2 watts 0,3 watts (others on request)
Coil current (per contact)	at 5 volts = 50 mA at 12 volts = 20 mA at 24 volts = 10 mA
Enclosure	Aluminium alodyned (alodyne 1200)

Control input

There are six different control input version available:

Code	Description	Control signal
C	floating, one side on a common line	Coil voltage
G	common ground	Coil voltage
F	floating, each coil as separated connectors (only until SPDT available)	Coil voltage
X	TTL-driver, switch at „1“	0 / 5 V, switch at 5 V
L	TTL-driver, invertig, switch at „0“	0 / 5 V, switch at 0 V
Z	with BCD-decoder TTL	0 / 5 V

Series R and T-R

T = only at cassette units

T - RT 2 - 7 1

Configuration	
RO	If switch is out of order, all contacts are floating.
RT	If switch is out of order, all outputs are terminated.
RM	If switch is out of order, all outputs are grounded.
RU	If switch is out of order, one path is closed, all other contacts are floating.
RA	If switch is out of order, one path is closed, all other contacts are terminated.
RK	If switch is out of order, one path is closed, all other contacts are grounded.
RV	The input and output ports are terminated, if contacts are not switched.
RX	Transfer-switch
RY	Bypass-switch

Type of switch	Impedance		Frequency range		Insolation min.
	5	7	4	2	
1 SPST	50 Ω	75 Ω	DC - 40 MHz	80 dB	
2 2-way-switch SPDT	50 Ω	75 Ω	DC - 200 MHz	70 dB	
	50 Ω	75 Ω	DC - 500 MHz	65 dB	
	50 Ω	75 Ω	DC - 1000 MHz	60 dB	
3 3-way-switch SP3T	50 Ω	75 Ω	DC - 40 MHz	80 dB	
	50 Ω	75 Ω	DC - 200 MHz	70 dB	
	50 Ω	75 Ω	DC - 500 MHz	60 dB	
4 4-way-switch SP4T	50 Ω	75 Ω	DC - 1000 MHz	50 dB	
	50 Ω	75 Ω	DC - 40 MHz	80 dB	
	50 Ω	75 Ω	DC - 200 MHz	70 dB	
5 5-way-switch SP5T	50 Ω	75 Ω	DC - 500 MHz	60 dB	
	50 Ω	75 Ω	DC - 1000 MHz	50 dB	
	50 Ω	75 Ω	DC - 40 MHz	80 dB	
6 3-way-switch SP6T	50 Ω	75 Ω	DC - 200 MHz	70 dB	
	50 Ω	75 Ω	DC - 500 MHz	60 dB	
	50 Ω	75 Ω	DC - 1000 MHz	50 dB	
7 7-way-switch SP7T	50 Ω	75 Ω	DC - 40 MHz	80 dB	
	50 Ω	75 Ω	DC - 200 MHz	65 dB	
	50 Ω	75 Ω	DC - 500 MHz	60 dB	
8 8-way-switch SP8T	50 Ω	75 Ω	DC - 1000 MHz	50 dB	
	50 Ω	75 Ω	DC - 40 MHz	80 dB	
	50 Ω	75 Ω	DC - 200 MHz	65 dB	
9 9-way-switch SP9T	50 Ω	75 Ω	DC - 500 MHz	60 dB	
	50 Ω	75 Ω	DC - 1000 MHz	50 dB	
	50 Ω	75 Ω	DC - 40 MHz	80 dB	
10 10-way-switch SP10T	50 Ω	75 Ω	DC - 200 MHz	70 dB	
	50 Ω	75 Ω	DC - 500 MHz	60 dB	
	50 Ω	75 Ω	DC - 40 MHz	80 dB	
11 11-way-switch SP11T	50 Ω	75 Ω	DC - 200 MHz	65 dB	
	50 Ω	75 Ω	DC - 500 MHz	60 dB	
	50 Ω	75 Ω	DC - 40 MHz	80 dB	
12 12-way-switch SP12T	50 Ω	75 Ω	DC - 200 MHz	65 dB	
	50 Ω	75 Ω	DC - 500 MHz	60 dB	
	50 Ω	75 Ω	DC - 40 MHz	80 dB	
RX Transfer-switch	50 Ω	75 Ω	DC - 40 MHz	70 dB	
	50 Ω	75 Ω	DC - 200 MHz	60 dB	
	50 Ω	75 Ω	DC - 500 MHz	50 dB	
RY Bypass-switch	50 Ω	75 Ω	DC - 1000 MHz	40 dB	
	50 Ω	75 Ω	DC - 40 MHz	70 dB	
	50 Ω	75 Ω	DC - 200 MHz	60 dB	
	50 Ω	75 Ω	DC - 500 MHz	50 dB	
	50 Ω	75 Ω	DC - 1000 MHz	40 dB	
	50 Ω	75 Ω	DC - 40 MHz	70 dB	
	50 Ω	75 Ω	DC - 200 MHz	60 dB	
	50 Ω	75 Ω	DC - 500 MHz	50 dB	
	50 Ω	75 Ω	DC - 1000 MHz	40 dB	

0 0 - C -

Internal registration number
for special manufacturing

Insertion loss max.	VSWR max.	Style R-series	T-series
0,1 dB	1,1 : 1	1	like T2
0,2 dB	1,2 : 1	1	like T2
0,3 dB	1,4 : 1	1	like T2
0,4 dB	1,5 : 1	1	like T2
0,2 dB	1,1 : 1	2/2A*	T2
0,3 dB	1,2 : 1	2/2A*	T2
0,5 dB	1,6 : 1	2/2A*	T2
0,6 dB	1,6 : 1	2/2A*	T2
0,2 dB	1,1 : 1	like 4	T3
0,3 dB	1,3 : 1	like 4	T3
0,5 dB	1,4 : 1	like 4	T3
1,0 dB	1,5 : 1	like 4	T3
0,2 dB	1,2 : 1	4	T4
0,4 dB	1,3 : 1	4	T4
0,6 dB	1,4 : 1	4	T4
1,0 dB	2,0 : 1	4	T4
0,2 dB	1,2 : 1	like 6	like T6
0,4 dB	1,3 : 1	like 6	like T6
0,6 dB	1,5 : 1	like 6	like T6
1,5 dB	2,0 : 1	like 6	like T6
0,2 dB	1,2 : 1	6	T6
0,4 dB	1,3 : 1	6	T6
0,6 dB	1,5 : 1	6	T6
1,5 dB	2,0 : 1	6	T6
0,2 dB	1,3 : 1	like 8	like T8
0,4 dB	1,5 : 1	like 8	like T8
0,6 dB	1,5 : 1	like 8	like T8
1,5 dB	2,0 : 1	like 8	like T8
0,2 dB	1,3 : 1	8	T8
0,4 dB	1,5 : 1	8	T8
0,6 dB	1,5 : 1	8	T8
1,5 dB	2,0 : 1	8	T8
0,3 dB	1,3 : 1	like 10	like T10
0,6 dB	1,5 : 1	like 10	like T10
1,0 dB	1,7 : 1	like 10	like T10
0,3 dB	1,3 : 1	10	T10
0,6 dB	1,5 : 1	10	T10
1,0 dB	1,7 : 1	10	T10
0,3 dB	1,5 : 1	like 12	like T12
0,6 dB	2,0 : 1	like 12	like T12
1,0 dB	2,0 : 1	like 12	like T12
0,3 dB	1,5 : 1	12	T12
0,6 dB	2,0 : 1	12	T12
1,0 dB	2,0 : 1	12	T12
0,2 dB	1,1 : 1	13	T13
0,5 dB	1,3 : 1	13	T13
0,7 dB	1,5 : 1	13	T13
1,0 dB	2,0 : 1	13	T13
0,2 dB	1,1 : 1	13	T13
0,5 dB	1,3 : 1	13	T13
0,7 dB	1,5 : 1	13	T13
1,0 dB	2,0 : 1	13	T13

Coaxial connectors

0	BNC f
2	TNC f
4	SMA f
6	1.6/5.6 f
8	N f*

*Other enclosures

f=female

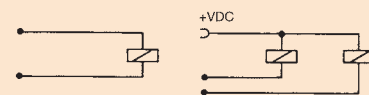
Other coaxial connectors
on request!* Enclosure 2A for switches
with driver

Coil voltage

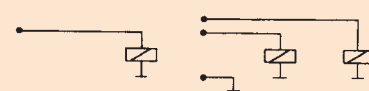
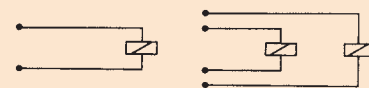
0	5 V DC
1	12 V DC
2	24 V DC

Coil voltage at control
type C, G, F and X
optionally 5, 12 or 24
volts.At control type Z or L
only a supply voltage of
5 V DC is possible.Higher frequencies and other
configurations on request!

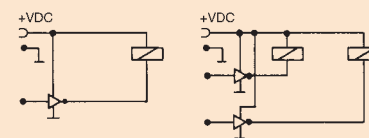
Control input

C Floating (one side on a common line)
from SP3T standard

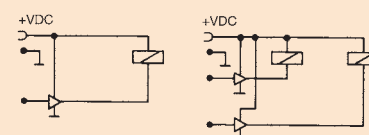
G Common ground

F Floating, each coil at separated connectors
(only up to SPDT)

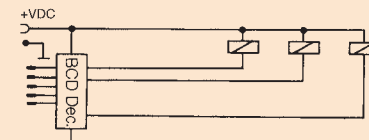
X TTL-Driver (switch at „1“)



L TTL-driver, inverting (switch at „0“)

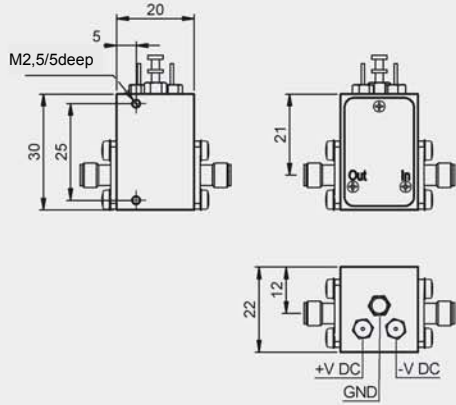


Z With BCD-decoder TTL

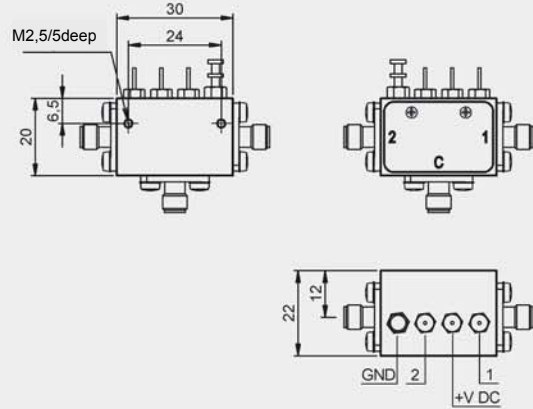


Dimensions, series R

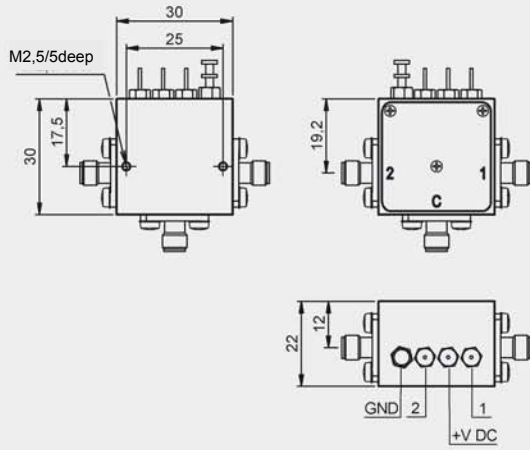
Style 1



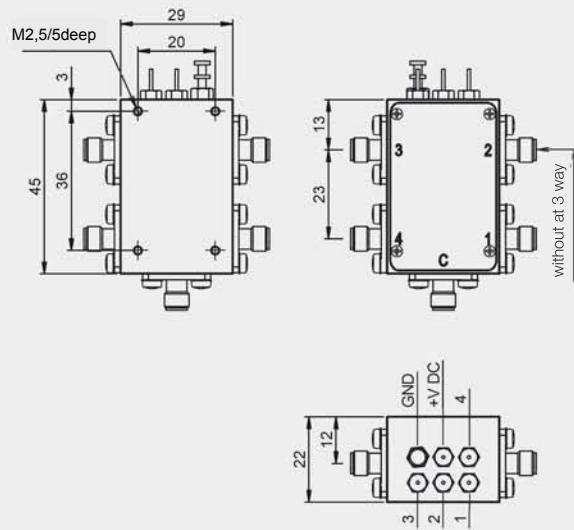
Style 2



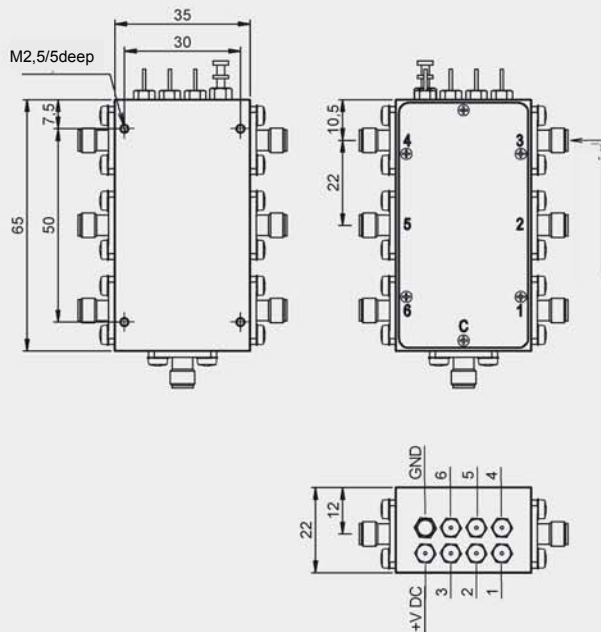
Style 2A



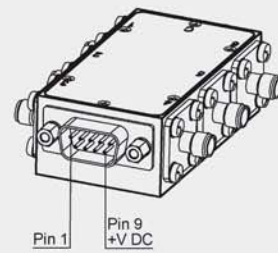
Style 4



Style 6

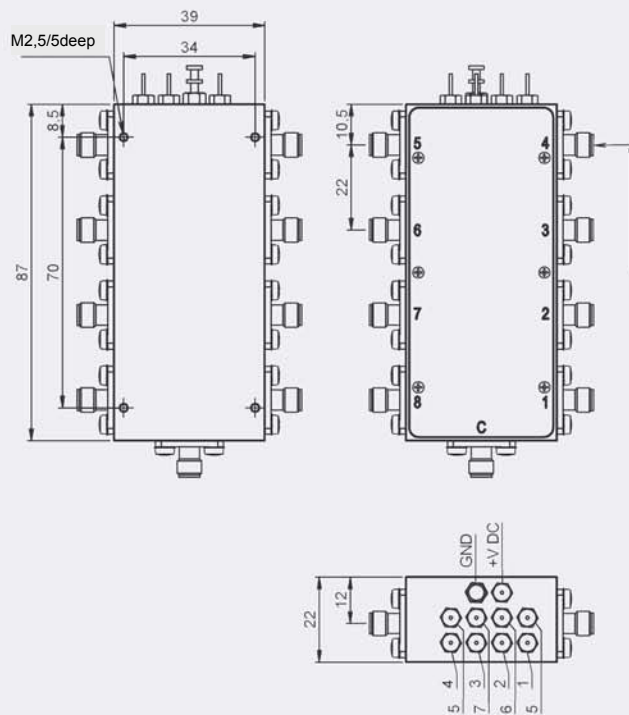


Option D

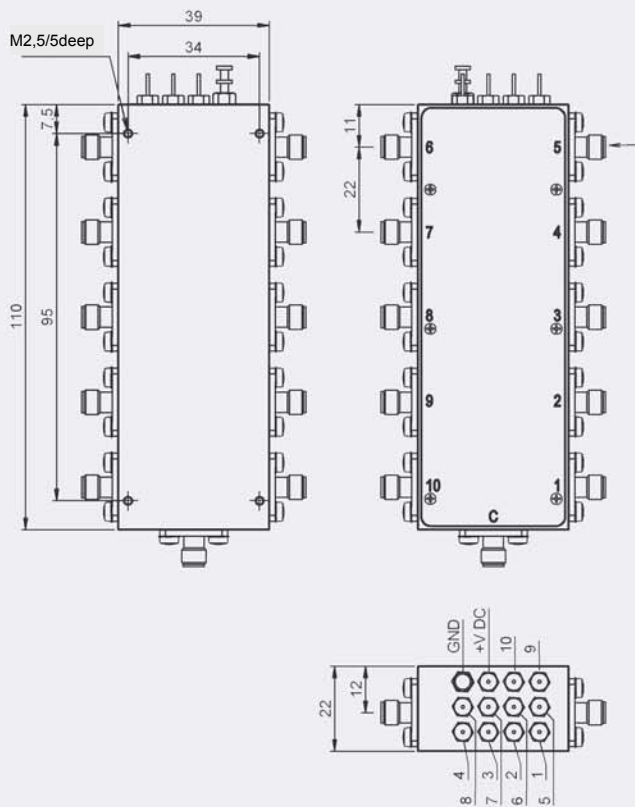


Dimensions, series R

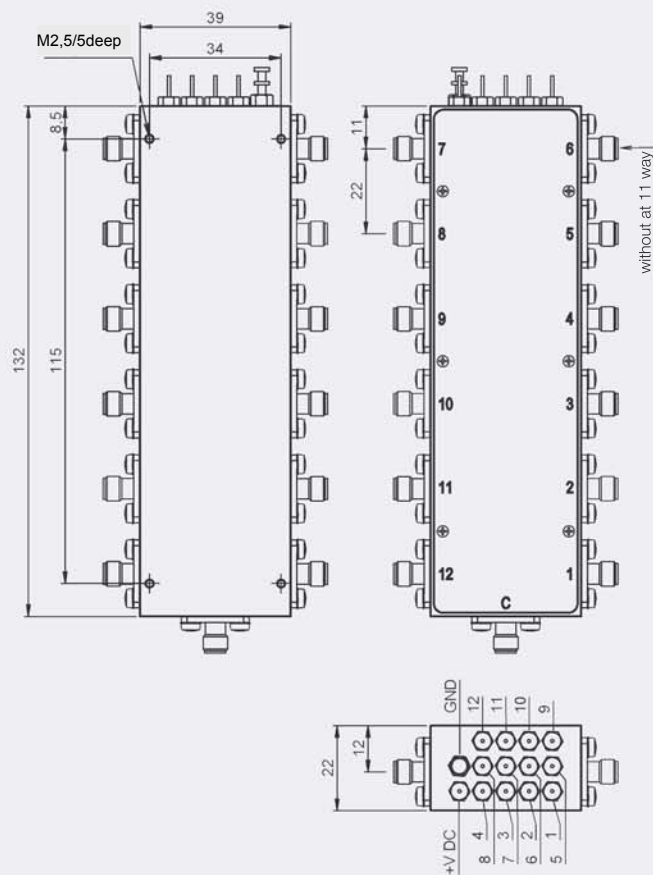
Style 8



Style 10



Style 12



Style 13

