

design by Mr. K

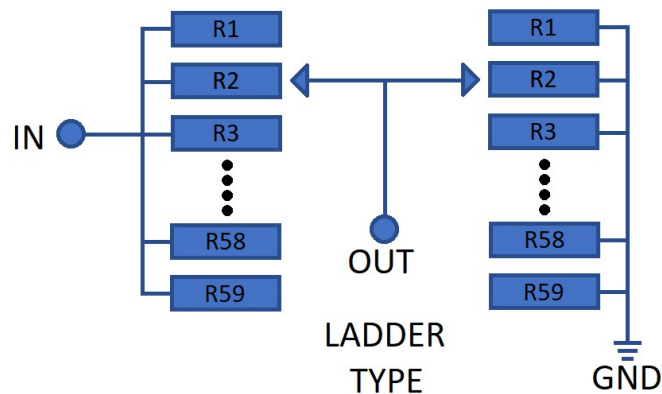
59 Steps Ladder Type Stepped Attenuator High Quality Passive Preamplifiers Metal (1%) Film Resistor (KOA)



Ladder Type Stepped Attenuators

This attenuator is formed by 2 resistors and 2 switch contacts per step, making up a unique combination of resistors per step. Their function is to add up the impedance of the stepped attenuator. That forms a high quality of voltage divider network.

Each resistor set has an equal total series of resistance; therefore, the impedance of the signal source can always be the same.



Detent: 59 steps

Attenuation range: -60dB ... 0dB

Contact material: Hard gold

Mechanical life: > 10 000 cycles

CNC machined AL6063 aluminum

Double grounding design

Indexing angle: 6 degree

Resistance taper: 15A

Bearing: NMB

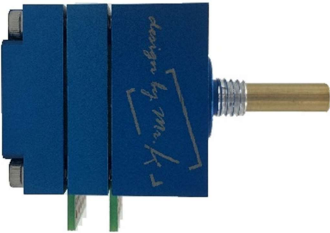
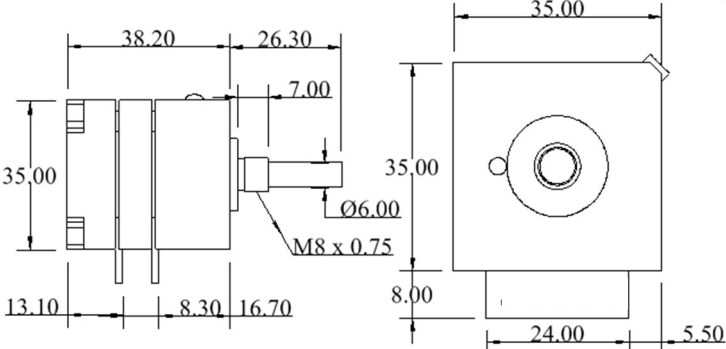
Ingress Protection Rating: IP54

Product Image	Part NO.	Type	Channel	Resistor Value	Resistor Type (Tolerance)	Resistance Taper	Size (L x W x H)
	LDM050K M15A	Ladder	Mono	50K	Metal (1%)	15A	35mm x 35mm x 38.2mm + (Shaft length 26.3mm)
	LDM100K M15A			100K			
	LDM250K M15A			250K			

Ladder Type Stepped Attenuators/ Product Dimensions

Dimensions:

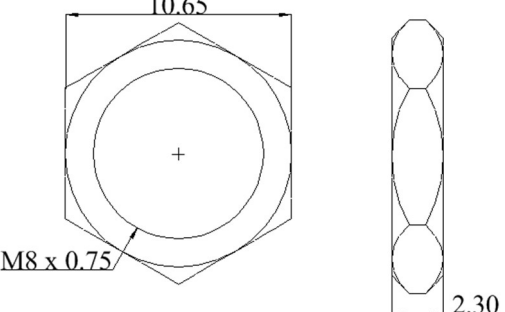
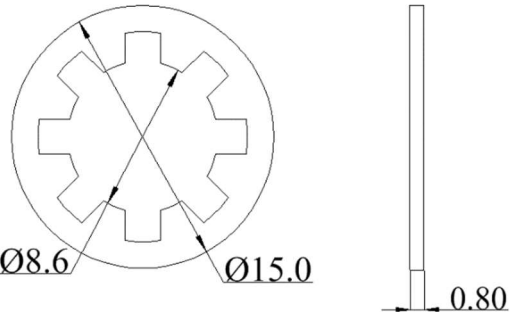
Unit: mm

Photo	Style
	 <p>Technical drawing showing dimensions for the attenuator:</p> <ul style="list-style-type: none"> Overall length: 38.20 Distance from left end to start of shaft: 13.10 Distance from left end to end of first step: 8.30 Distance from left end to end of second step: 16.70 Distance from left end to end of third step: 26.30 Distance from left end to end of shaft: 35.00 Shaft diameter: $\text{Ø}6.00$ Thread specification: M8 x 0.75 Front view width: 35.00 Front view height: 8.00 Front view inner width: 24.00 Front view outer width: 5.50

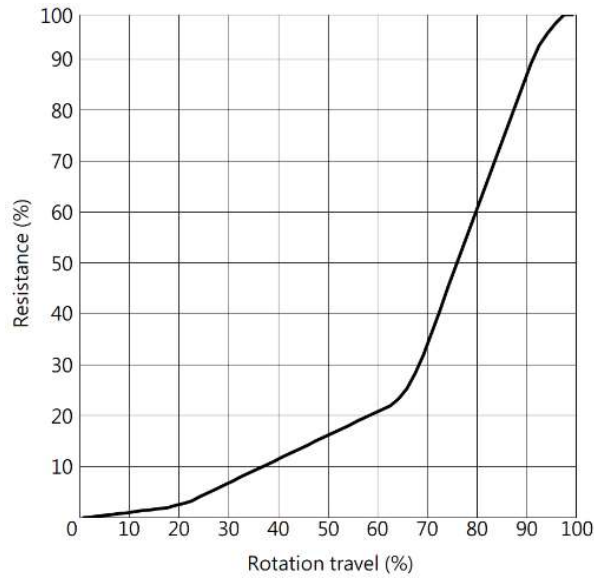
Ladder Type Stepped Attenuators/ Attached Parts

The following parts are included with the product.

Unit: mm

Nut	Washer
 <p>Technical drawing of the Nut:</p> <ul style="list-style-type: none"> Hexagonal width: 10.65 Thread specification: M8 x 0.75 Height: 2.30 	 <p>Technical drawing of the Washer:</p> <ul style="list-style-type: none"> Outer diameter: $\text{Ø}15.0$ Inner diameter: $\text{Ø}8.6$ Height: 0.80

Ladder Type Stepped Attenuators/ 15A Resistance Taper



Ladder Type Stepped Attenuators/ Detent against dB

Part Number: LDM250KM15A

Serial Number: _____

Tested by: _____

Detent	Pass Value	Measured value*	Detent	Pass Value	Measured value*	Detent	Pass Value	Measured value*
1	100.00	100	21	27.24-28.04	2 .	41	7.650-7.938	7.
2	98.54-98.61	98.	22	24.53-25.28	2 .	42	6.533-6.782	6.
3	96.32-96.46	96.	23	21.88-22.57	2 .	43	5.841-6.065	
4	93.56-93.79	93.	24	20.80-21.47	2 .	44	5.102-5.299	5.
5	88.92-89.31	8 .	25	20.00-20.64	20.	45	3.972-4.127	
6	82.99-83.54	8 .	26	19.26-19.89	19.	46	3.541-3.680	3.
7	79.02-79.68	7 .	27	18.51-19.12	1 .	47	2.670-2.776	2.
8	74.72-75.47	7 .	28	17.80-18.40	1 .	48	2.440-2.537	2.
9	71.96-72.76	7 .	29	16.46-17.01	1 .	49	2.016-2.096	2.0
10	67.27-68.14	6 .	30	16.13-16.68	16.	50	1.817-1.889	1.8
11	63.28-64.21	6 .	31	15.40-15.93	15.	51	1.596-1.660	1.
12	59.52-60.48		32	14.57-15.07	1 .	52	1.397-1.454	1.
13	54.84-55.83	5 .	33	14.10-14.59	14.	53	1.167-1.214	1.
14	50.68-51.68	5 .	34	13.08-13.54	13.	54	0.781-0.813	0.
15	48.32-49.32	4 .	35	12.77-13.22	1 .	55	0.634-0.659	0.6
16	44.17-45.16	4 .	36	11.74-12.16	1 .	56	0.392-0.408	0.
17	39.52-40.48		37	10.69-11.08	1 .	57	0.201-0.209	0.20
18	34.66-35.57	3 .	38	9.958-10.32		58	0.100-0.104	0.10
19	31.86-32.73	3 .	39	8.711-9.034		59	0.00	0
20	29.23-30.06		40	8.348-8.659	8.			

* this value is tested by 10V loading in unit (V).

Important Warning:

- a. Do not apply torque more than 3kgf-cm on the product's hex nut, excessive force will damage the product.
- b. Do not unscrew the product. This action is irreversible to the inner mechanic structure.
- c. Noise may be heard after long term usage. Apply oil-based cleaner to the outer gap will solve the problem. Do not disassemble the product.