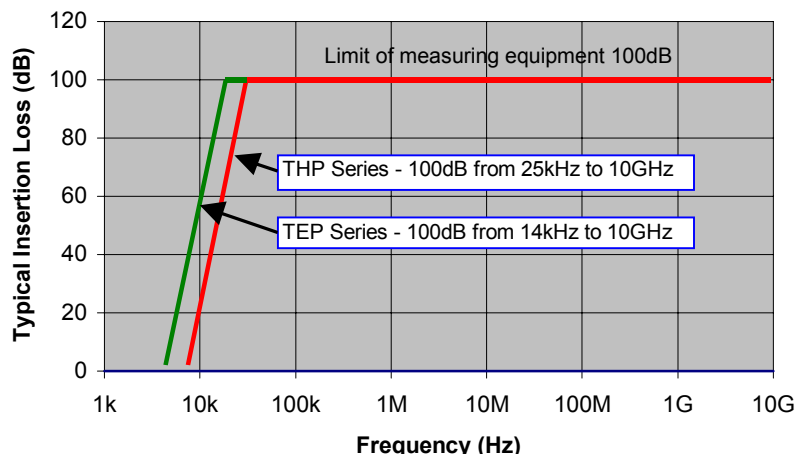


Description

A range of high performance communications filters designed for carrying analogue telephone circuits into shielded rooms and communications cabins, and also used as in-line filters for Information Security applications. Filters are offered in two performance variants each available with varistor transient protection to offer additional protection of circuits against the effects of EMP and other conducted transients.



Features

- Use on 300Ω/600Ω analogue telephone lines for telephone, fax and modem circuits
- High performance (THP series) or extended performance (TEP series)
- 2 lines to 240 lines as standard
- Available with transient suppression
- Performance exceeds 100dB
- Performance extends to beyond 40GHz
- Choice of packaging and mounting styles
- Filter circuits approved by British Telecom and other PTT's
- Circuits supplied as high symmetry matched pairs
- Pass band ripple <2dB (300Ω)
- Filters incorporate MPE self-healing capacitors for high reliability
- Temperature range -40°C to +55°C
- Custom designs available with different packaging, performance, and transient suppression options

Electrical Specification

Filter Series	Insertion Loss (50Ω) *	Pass Band	Voltage Rating	Current Rating	DC Resistance	Impedance	Varistor Rating
THP series	100dB 25kHz-10GHz	0-8kHz	250V ac/dc	300mA	8Ω	300Ω line-earth 600Ω line-line	-
THP...V series	100dB 25kHz-10GHz	0-8kHz	95Vac/ 125Vdc	300mA	8Ω	300Ω line-earth 600Ω line-line	4500A (8/20μs)
TEP series	100dB 14kHz-10GHz	0-4kHz	250V ac/dc	125mA**	9Ω	300Ω line-earth 600Ω line-line	-
TEP...V series	100dB 14kHz-10GHz	0-4kHz	95Vac/ 125Vdc	125mA**	9Ω	300Ω line-earth 600Ω line-line	4500A (8/20μs)

* NB Rectangular cases are recommended where 100dB is needed beyond 1GHz

** 300mA with reduced performance

FILTERS FOR ANALOGUE TELEPHONE LINES



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THP SERIES – HIGH PERFORMANCE TELEPHONE LINE FILTERS			
Standard Part Number	No of Lines	Case Style	Weight (kg)
THP23402	2	1	0.8
THP31350C	2	2	1
THP31351C	4	3	2
THP31352C	8	4	4
THP23443C	32	5	17
THP26904C	40	6	21
THP31010C	100	7	60
THP31020C	200	8	120
THP31024C	240	8	140

THP...V SERIES – HIGH PERFORMANCE TELEPHONE LINE FILTERS WITH TRANSIENT SUPPRESSION			
Standard Part Number	No of Lines	Case Style	Weight (kg)
THP23579V	2	1	0.8
THP31350CV	2	2	1
THP31351CV	4	3	2
THP31352CV	8	4	4
THP23585CV	32	5	17
THP26905CV	40	6	21
THP31101CV	100	7	60
THP31021CV	200	8	120
THP31024CV	240	8	140

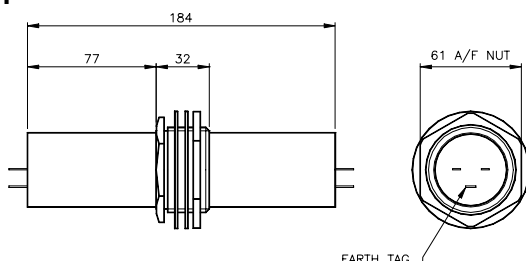
TEP SERIES – EXTENDED PERFORMANCE TELEPHONE LINE FILTERS			
Standard Part Number	No of Lines	Case Style	Weight (kg)
TEP23559	2	1	0.8
TEP31355C	2	2	1
TEP31356C	4	3	2
TEP31357C	8	4	4
TEP23561C	32	5	17
TEP26906C	40	6	21
TEP31030C	100	7	60
TEP31040C	200	8	120
TEP31044C	240	8	140

TEP...V SERIES – EXTENDED PERFORMANCE TELEPHONE LINE FILTERS WITH TRANSIENT SUPPRESSION			
Standard Part Number	No of Lines	Case Style	Weight (kg)
TEP23582V	2	1	0.8
TEP31355CV	2	2	1
TEP31356CV	4	3	2
TEP31357CV	8	4	4
TEP23586CV	32	5	17
TEP26907CV	40	6	21
TEP31031CV	100	7	60
TEP31041CV	200	8	120
TEP31045CV	240	8	140

Notes: Lines are supplied as matched pairs, hence 1 telephone circuit = 1 matched pair = 2 lines
 Filters of 100 lines and above are modular so intermediate numbers of lines can be offered in multiples of 20
 Other custom packaging options are available.

Mechanical Details / Dimensions

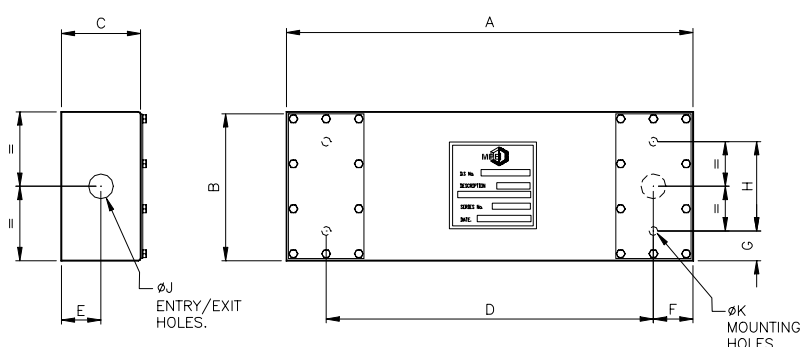
Case Style 1



Mechanical details – case style 1

Case material	electroplated brass/steel
Finish	paint
Terminals	6.3mm spade tags
Earth terminal	solder tag
Mounting hole	52mm

Case Styles 2, 3, 4, 5, 6



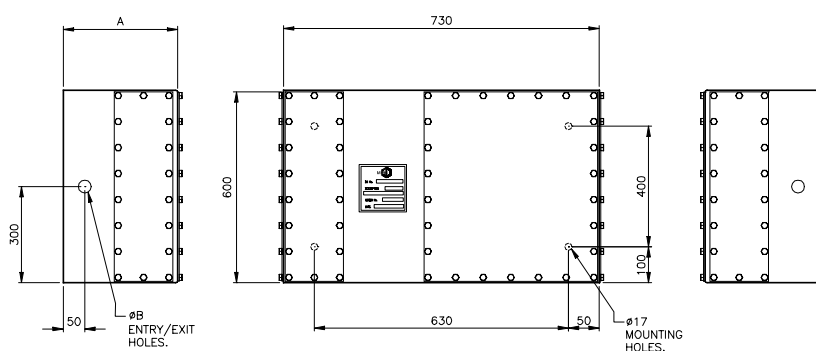
Dimensions – case styles 2 - 6

Case Style	No of Lines	Major Dimensions (mm)		
		A	B	C
2	2	250	60	35
3	4	250	120	35
4	8	250	240	35
5	32	547	200	143
6	40	547	250	143

Case Style	Additional Dimensions (mm)						
	D	E	F	G	H	J	K
2	210*	17	20	13*	34*	20	6
3	210	17	20	20	80	20	6
4	210	17	20	20	200	20	6
5	460	30	40	40	120	25.4	7
6	460	30	43.5	50	150	25.4	7

*For case style 2 with cable entry "C", cable hole is used for mounting instead of screw holes on exit end

Case Style 7, 8



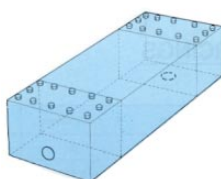
Dimensions – case styles 7, 8

Case Style	No of Lines	Dimensions (mm)	
		A	B
7	100	250	32
8	200, 240	475	50

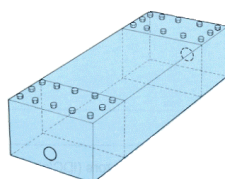
Mechanical details – case styles 2- 8

Case material	electroplated steel
Finish	paint (except base)
Terminals	4.8mm spade tags
Cable entry options	see below
Fixing kit	optional
Varistor mounting (where fitted)	on input terminals

Cable Entry Options



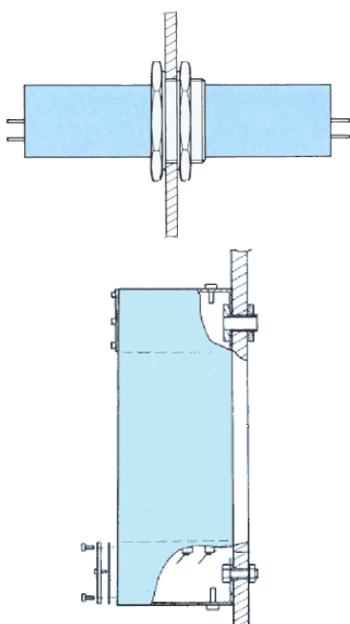
Part No DS XXXXX / C
End entry base exit
(standard cable entry configuration)



Part No DS XXXXX / A
End entry end exit
(alternative cable entry)

On rectangular filters, two different cable entry options are available as shown. Standard configuration is suffix C for shielded room mounting, i.e. end entry, base exit. For end entry and end exit, substitute suffix C with suffix A in the part number.

Installation Details



Typical Installation of Tubular Filters

Mounting surface should be clean and unpainted to ensure a good earth bond and RF seal
 Terminals should be enclosed by the user
 Mounting hole size 52mm
 Max tightening torque 58 N-m

Typical Installation of Rectangular Filters

Mounting surface should be clean and unpainted to ensure a good earth bond and RF seal
 Fixing screws and gland tubes can be supplied as an option

Recommended torque figures:

M5 lid fixings: 1N-m
 M6 earth & mounting: 2.5N-m
 M16 mounting screw: 20N-m

Safety

After installation of the filter, any exposed terminals should be enclosed by the user to prevent any danger of electric shock, and to provide screening of incoming and outgoing lines.
 Ensure filter capacitors are discharged before touching terminals.
 Filters must be solidly and permanently earthed.

Filter Selection and Ordering Guide

Step 1

Choose telephone circuit type

Class B - standard 300/600Ω analogue circuits
 (normal incoming PSTN lines and modems)
 Covered by this brochure

Class A - complex impedance digital circuits
 (local building digital exchanges)

Ask for separate Class A brochure

Step 2

Choose required filter performance

Standard high performance circuit
 100dB from 25kHz to 10GHz
 Choose THP series or THP...V for transient suppressed

Extended performance circuit
 100dB from 14kHz to 10GHz
 Choose TEP series or TEP...V for transient suppressed

Step 3

Choose number of lines required and select part number from page 2

Step 4

If end cable entry and exit needed then change part number suffix from C to A (see page 3)
 and add fixing kit to order if required