



DATA SHEET

EMI Filtered Connector TERRAPIN

Amphenol's Terrapin connector series is now available with embedded EMI filter circuits. This planar filtering technology further enhances the renowned EMC performance of the Terrapin range and has minimal impact on the physical size of the connectors. Terrapin connectors can be supplied with either standard or customised Pi, C or LC filter circuits.

The miniature size and footprint of the Terrapin connector series means it is widely used for applications where space is at a premium i.e. hand-held devices and highly connectorised equipment. Embedding the filtering within the connector eliminates the need for 'dirty' areas or additional filter boards and circuitry within the box, resulting in weight and space savings.

Filtering within the connector also enables a low impedance path between filter and ground, mechanically and environmentally protected circuits and increased reliability.

The mechanical design of the Terrapin connector ensures 'scoop-proof' mating of receptacle and plug and sealing to IP68 in both the mated and unmated condition. The new filtered version enhances this by ensuring that equipment is protected from unwanted signals and noise as well as the ingress of dust and moisture.

Available in various RoHS compliant plating finishes Filtered Terrapin connectors are suitable for both military and industrial applications.

Key Features

- **Technology**

Low-pass Pi filter circuits available as standard, also C and LC available on request

- **Mechanical**

Standard Terrapin panel cut-out dimensions

Minimal increase in overall length

Intermateable with standard product

2000 mating cycles

5 different keying options

Miniature footprint < 16mm Ø

- **Environmental Operating**

Temperature Range -55°C to +125°C

IP68 sealing

1000 hours salt spray

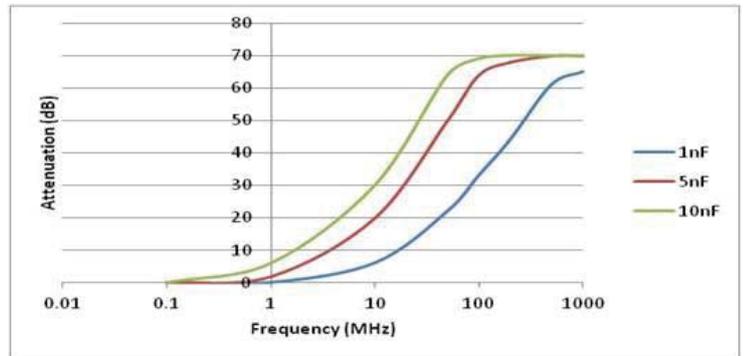
RoHS compliant

EMI Filtered Connector

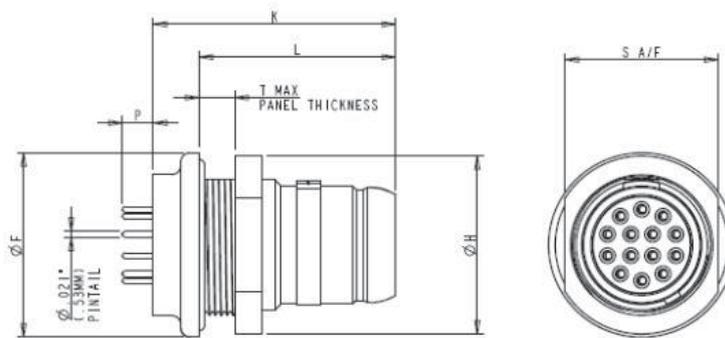
Pi filtering is achieved via dual capacitors with a single inductive element between them. This circuit arrangement provides excellent performance due to its sharp attenuation slope and is suitable for a variety of applications.

Generally the capacitance defines the start frequency (higher capacitance provides filtering at lower frequencies) and the circuit defines the slope of attenuation.

Filter connector circuits are frequently tailored to suit the specific EMI environment in which they operate. However, Amphenol Ltd recognises an industry requirement for “off the shelf” solutions and are thus offering Terrapin Connectors with three standard filter options; providing 1nF, 5nF and 10nF Pi circuits across all contacts.



The typical frequency response of these three different Pi circuits is shown based on a 50Ω source and load impedance.



Shell Size	Ø F	Ø H	K	L	P	S A/F	T Max
Size 06	.550 (13.97)	.550 (13.97)	.808 (20.52)	.655 (16.64)	.102 (2.59)	.470 (11.94)	.118 (3.00)
Size 07	.620 (15.75)	.600 (15.24)	.808 (20.52)	.655 (16.64)	.102 (2.59)	.510 (12.95)	.118 (3.00)
Size 08	.760 (19.30)	.760 (19.30)	.808 (20.52)	.655 (16.64)	.102 (2.59)	.706 (17.93)	.118 (3.00)

ALL DIMENSIONS ARE SHOWN IN INCHES (MM IN BRACKETS) AND ARE FOR REFERENCE ONLY. FIGURE ENLARGED SCALE

Ordering Information

eg. **WFSCE2-B-76A07-14SN-001-P-160**

Series	Plating Finish	Style	Shell Size & No. of Contacts	Contact Style	Key Orientation	Variant Code	Circuit	Filter Value
WFSCE2	B = Black Silver	76A = rear mount jam nut plug	06-07 07-14 08-19	S = Socket	N = Normal A B C D	001 = PC Tail	P = Pi	160 = 1nF 161 = 5nF 162 = 10nF xxx = Custom

Please consult factory for alternative circuits or values.