

## EMI/RFI Shielding Flexible Conduit

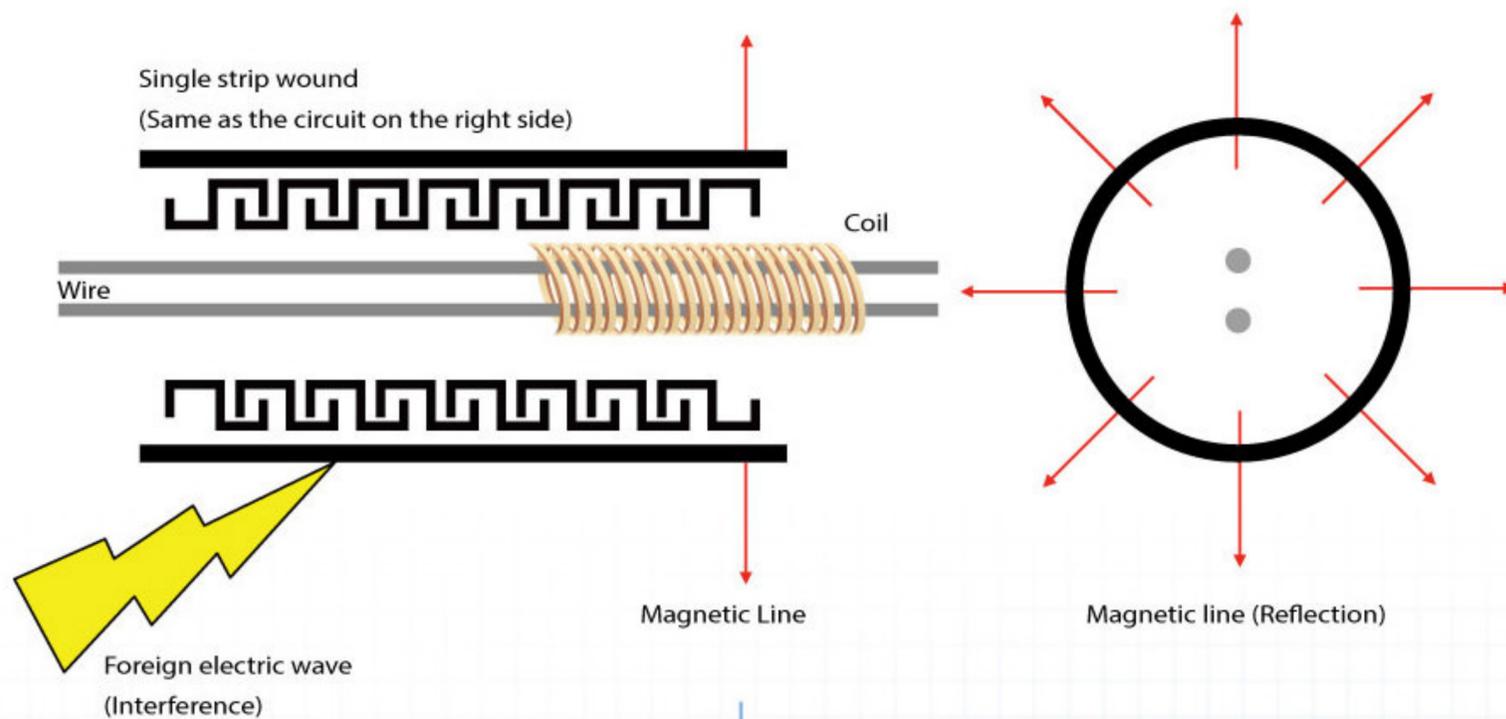
### Reduced Electromagnetic Interference Enhanced Electromagnetic Shielding, Improved Electromagnetic Compatibility.

Since our development of "Electrical Appliance Signal Filter Conduit PAT. No. 39811" in 1993, BLISS keeps on developing conduit with better EMI shielding performance. Now, we're introducing the EMI series, providing the ability of screening electromagnetic waves and radio interference, addressing your diverse needs.

There are new electric devices appearing in the marketplace every day. In many circumstances, sensitive & sophisticated device circuit has to be isolated from any external interference, such as medical examine apparatus in hospital, and radar detecting instrument in military base, which should prevent from interferences of electromagnetic waves to show their top performances. Furthermore, in the regulations of CE, whatever electrical devices exporting to Europe must conform to their standards. The radiation of electrical device must be lower than the requirement to prevent the high electromagnetic radiation from endangering human body. BLISS flexible conduit is your best choice to decrease the electromagnetic radiation. Also, in the EU regulations of Electromagnetic Compatibility (EMC), electrical devices have to be radiation interference passive, let alone be active. By taking the advantage of BLISS EMI series, you are shielding yourself from the threats of electromagnetic radiations; meanwhile, the data transmission in your electrical devices won't have mutual interruptions with others. BLISS EMI series itself does not emit electromagnetic radiation, and it can screen the internal radiations inside of the conduit, and vice versa. Therefore, adding the protection of BLISS EMI conduit on your wiring system, you can enjoy not only the inherent fine wiring manageability of conduit, but also the eliminated electromagnetic emissions.

No more extra concerns for crosstalk.

Please use BLISS connectors to reach the ultimate screening efficiency. BLISS is your best one-stop solution.



#### What is EMI?

EMI Screen System (EMI= Electromagnetic Interference)  
Apply flexible conduits to IT, telecommunication, and other electrical appliances:  
Electromagnetic interference is also a kind of the environmental pollution. It can be an invisible killer to human body in the long run.

#### Description

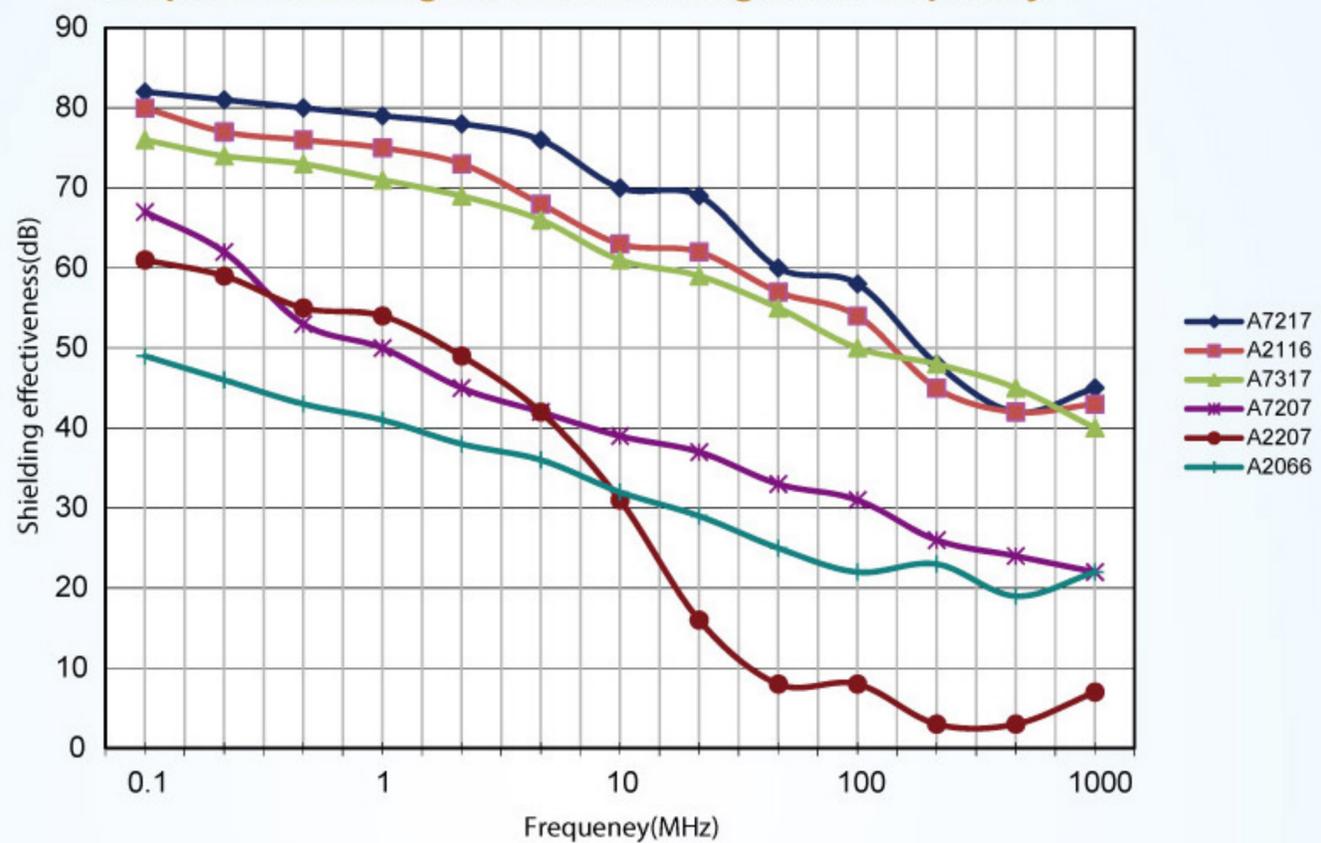
1. The flexible conduit covers the wires and signal lines as the figure above, will produce strong magnetic lines around the conduit. Reflecting the foreign electric waves will protect the inner signals instead of interfering the communication quality and there will be no disorder for the digital signals. This enlarges the EMS of electric equipments.
2. On the other hand, the power cord is the origin of electric interference, the electric interference reflects out by the power cord. Using the flexible conduit to screen it will lower the EMI to the minimum level.
3. EMI + EMS = EMC.



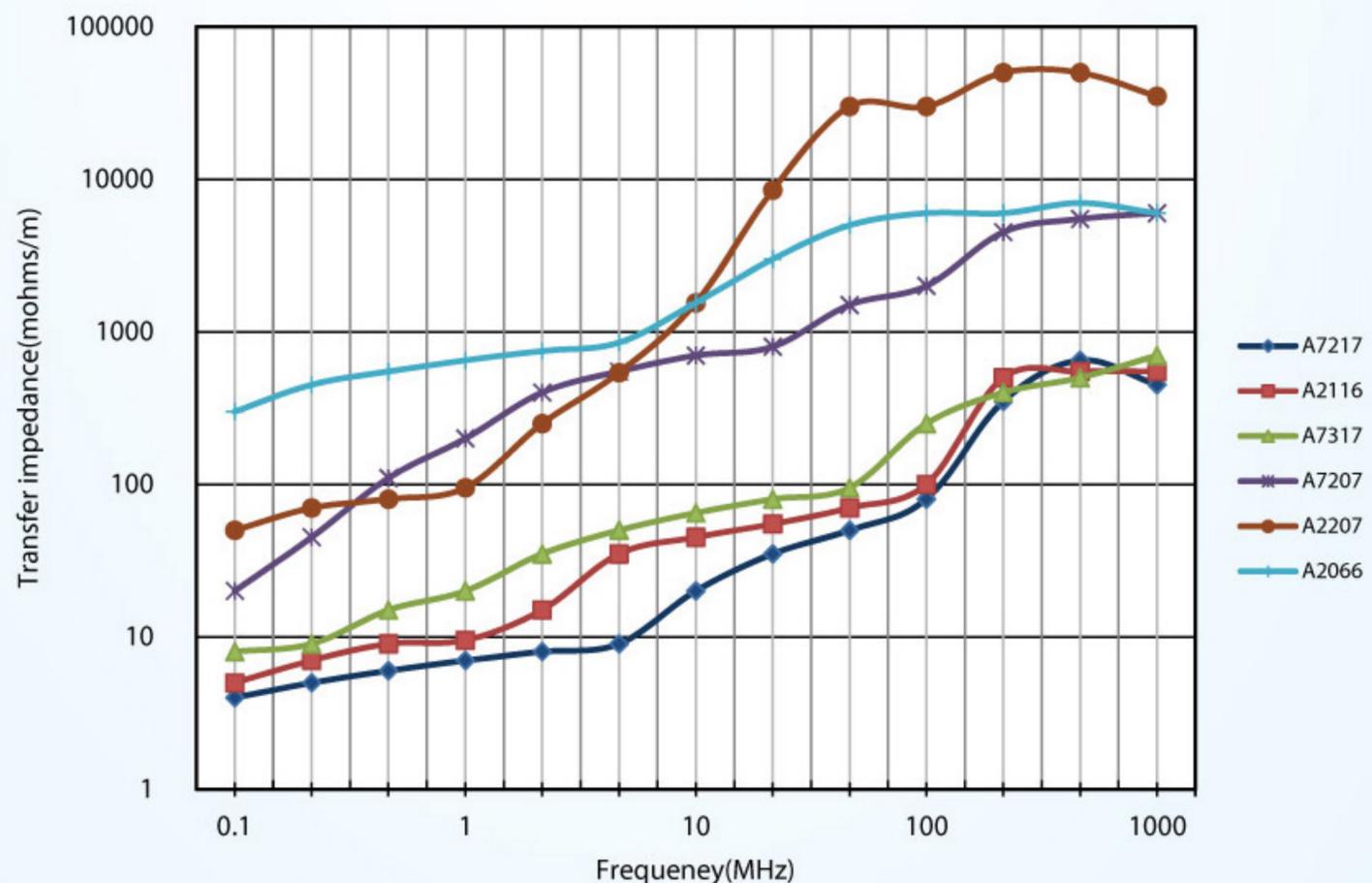
### Third Party Tests for EMI Shielding Effectiveness

To offer reliable screening efficiency, BLISS requested trusted ERA Technology Ltd. in U.K. for third-party test to offer you the trustworthy EMI shielding efficiency data. This test is based on IEC 1196-1, with 1/2", 0.5m sample, and the frequency range is from 100 kHz to 1GHz. Please see the following graphics for the test results. A2066 is the flexible conduit without special shielding braiding, the shielding efficiency of which is from 21.6 to 51.8 dB. Among the six samples tested, A7217 which has the best shielding efficiency from 39.6 to 79.6dB.

**Graph of Shielding Effectiveness Against Frequency.**



**Graph of Transfer Impedance Against Frequency.**



## EMI-Shielding Liquid-tight Flexible Conduit User Guide

### A2066



- IP67
- UL Rating: Dry -20°C ~ 60°C, Wet 60°C, Oil 60°C
- UL listed
- Size 3/8"~1-1/4" have a continuous copper ground wire built into the core.
- For more information, please see page 05.

### A2116



- IP67
- A2066 (UL type) +tinned copper braiding over 90% + RoHS and UL 360 compliant PVC jacket
- Liquid-tight, oil-resistant, flame retardant, and sunlight resistant.
- Temperature range: -20°C ~ 70°C
- Size 3/8"~1" have a continuous copper ground wire built into the core.

### A7207



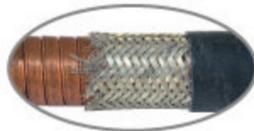
- IP67
- Copper strip interlocked core + RoHS and UL 360 compliant PVC jacket
- Liquid-tight, oil-resistant, flame retardant, and sunlight resistant.
- Temperature range: -20°C ~ 70°C

### A7307



- IP67
- Brass strip interlocked core + RoHS and UL 360 compliant PVC jacket
- Liquid-tight, oil-resistant, flame retardant, and sunlight resistant.
- Temperature range: -20°C ~ 70°C

### A7217



- IP67
- Copper strip interlocked core + tinned copper braiding over 90% + RoHS and UL 360 compliant PVC jacket
- Liquid-tight, oil-resistant, flame retardant, and sunlight resistant.
- Temperature range: -20°C ~ 70°C

### A7317



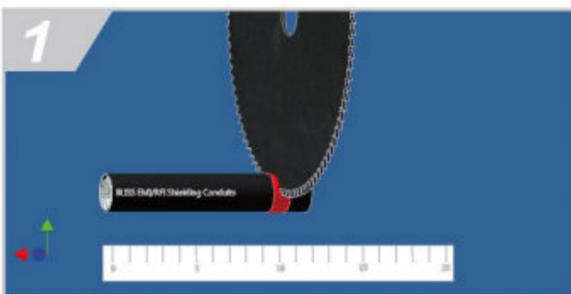
- IP67
- Brass strip interlocked core + tinned copper braiding over 90% + RoHS and UL 360 compliant PVC jacket
- Liquid-tight, oil resistant, flame retardant, and sunlight resistant.
- Temperature range: -20°C ~ 70°C

### A2207



- IP65
- Copper strip square-locked core + RoHS and UL 360 compliant PVC jacket
- Liquid-tight, oil resistant, flame retardant, and sunlight resistant.
- Temperature range: -20°C ~ 70°C

### Assembly instructions



- 1 Measure the needed length and mark, cut the conduit with circular sawing machine.



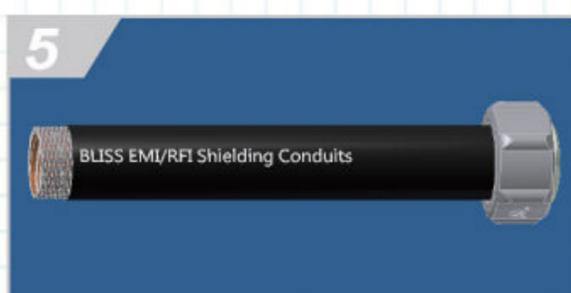
- 2 Trim the burrs with scissors. Put the cap nut and gland packing onto the conduit.



- 3 Measure the length of Ferrule sleeve (W) with calipers. Remove the terminal jacket of the conduit (cutting length = W).  
■ No need to remove the terminal jacket if no tinned copper braiding.



- 4 Lock the ferrule along with the inner convolution of conduit to the bottoms.



- 5 Assemble the cap nut, gland packing and ferrule, and lock onto the body. Tighten the cap nut and the body with wrench to make sure the liquid-tightness and grounding.



- 6 Fittings installed on equipments shall apply individual bonding (The bonding shall not connect to the equipment's grounding conductor) to achieve the best shielding performance.

Trade Size (inch)	Catalog Number		Min. I.D. (mm)	Max. I.D. (mm)	Min. O.D. (mm)	Max. O.D. (mm)	Min. Bending Radius (mm)	Packing (m)
3/8"	A21160300		12.29	12.80	17.50	18.00	50.5	30
	A72070300	A73070300	12.29	12.80	17.50	18.00	50.5	30
	A72170300	A73170300	12.29	12.80	17.50	18.00	50.5	30
	A22070300		12.30	12.80	16.70	17.20	50.0	50
1/2"	A21160400		15.80	16.31	20.80	21.30	82.5	30
	A72070400	A73070400	15.80	16.31	20.80	21.30	82.5	30
	A72170400	A73170400	15.80	16.31	20.80	21.30	82.5	30
	A22070400		15.80	16.30	20.20	20.70	65.0	50
3/4"	A21160600		20.83	21.34	26.20	26.70	108.0	30
	A72070600	A73070600	20.83	21.34	26.20	26.70	108.0	30
	A72170600	A73170600	20.83	21.34	26.20	26.70	108.0	30
	A22070600		20.80	21.30	25.60	26.10	75.0	50
1"	A21161000		26.44	27.08	32.80	33.40	165.0	20
	A72071000	A73071000	26.44	27.08	32.80	33.40	165.0	20
	A72171000	A73171000	26.44	27.08	32.80	33.40	165.0	20
	A22071000		26.40	27.00	31.60	32.20	100.0	30