

# SHV/MHV RF Cable Sets for upto 5KV DC use in Nuclear Instrumentation

## SHV Connectors used comply to NIM ND-545 Standard

HV... series cable sets have been designed for use in high voltage applications of upto 5KV DC, typically in nuclear instrumentation applications. Main feature of the SHV/MHV connectors is that the center contacts are deeply recessed into the dielectric to prevent shock in unmated condition. These cable sets use high quality imported SHV/MHV connectors from European/Japanese/US sources that adhere to IEC and NIM ND-545. We can provide the finished cable sets as per your asked lengths, cable type and small quantities.



### FEATURES

- SHV/MHV Series Connectors
- Interface acc. to IEC and NIM ND-545
- Bayonet coupling, inner conductor recessed in dielectric
- MIL-C-17 conforming Cable

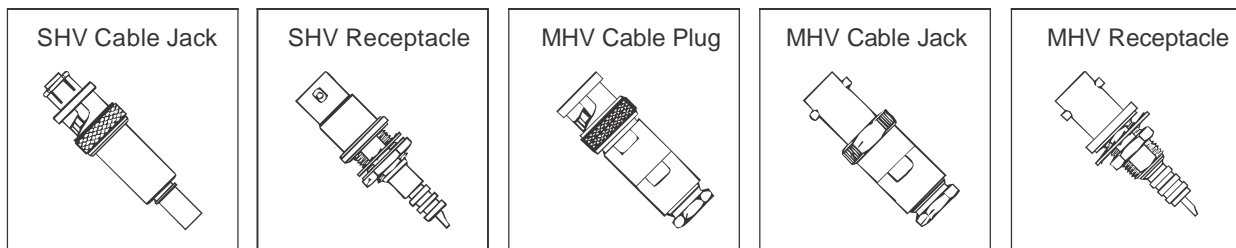


inner conductors recessed in dielectric for safe operation to 5 KV DC

### APPLICATIONS

- Particle physics research
- Nuclear Instrumentation

### Choice SHV/MHV Connectors for Nuclear Instrumentation cables



### Choice of RF Cable Types for SHV/MHV RF Cable Sets

Parameter	RG58	RG59	LL58
Inner Cond.	Stranded Tinned Copper	Copper Clad Steel	Solid Copper
Dielectric	Polyethylene	Polyethylene	Foamed Polyethylene
Outer Shield	Tinned Copper Braid	Copper Braid	1) Al Tape 2) Tinned copper braid
Jacket	PVC, 4.95mm	PVC, 6.2mm	PE, 4.95mm
Shielding Eff.	<65 dB	<65 dB	> 90 dB
Weight	39 g/m	57 g/m	35 g/m
Temp. Range	-40°C ~ +80°C	-40°C ~ +80°C	-40°C to +85°C
Impedance	50Ω	75Ω	50Ω
Capacitance	29.5 pF/ft	20.5 pF/ft	24.9 (pF/ft)

### Attenuation Vs Frequency

Frequency (MHz)	100	200	400	1000
LL58(dB/m)	0.12	0.17	0.25	0.42
RG58(dB/m)	0.17	0.26	0.40	0.74

Note : We recommend LL58 cable due to better shielding and lower losses

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SHV Connectors used comply to NIM ND-545 Standard

## Connectors Specifications

Specifications	SHV Connectors	MHV Connectors
Outer Conductor	Brass, Alloy plated	Brass, Alloy plated
Center Conductor	Brass(M), BeCu(F), Au Plated	Brass(M), BeCu(F), Au Plated
Insulation	PTFE	PTFE
Gasket	Rubber	Rubber
Frequency range	DC ~ 300 MHz	DC ~ 300 MHz
Operating Voltage	3.5 KVrms	1.6 KVrms
Test Voltage	5 KVrms	5 KVrms
Operating Current	< 10A peak; <0.5A average	< 10A peak; <0.5A average
Mating/Unmating	500 operations	500 operations
Vibration	As per MIL-STD-202, method 204, test condition D	
Mechanical Shock	As per MIL-STD-202, method 213, test condition I	
Thermal Shock	As per MIL-STD-202, method 107, test condition B	
Humidity	As per MIL-STD-202, method 106	
Temperature Cycle	As per MIL-STD-202, method 102A, test condition C	

## Ordering Codes Description

HV-XXX - □ □ - ( □ / □ ) □ - ( □ / □ ) □ - □  
**L L 1 2 3 1 2 3 U**

<b>XXX</b>	Cable	RG58 = RG58 ; RG59 = RG59 ; LL58 = LL58
<b>LL</b>	Length	0.5 = 0.5 ; 1 = 1.0 ; 2 = 2.0
<b>1</b>	Connector Series	MHV = MHV; SHV = SHV
<b>2</b>	Male/Female Designator	M = Male ; F = Female
<b>3</b>	Orientation of Connector	ST = Straight
<b>U</b>	Unit of Length	M = Meter ; F = Feet ; I = Inch

1m LL58 cable set with MHV Straight connectors on 2 sides = HV-LL58-1.0-MHV(M/ST)-MHV(M/ST)-M

## Cable Set Ordering Codes (Substitute XXX = Cable Code)

Ordering Code	Length	Conn 1	Conn 2
<b>With MHV Connectors</b>			
HV-XXX-0.5-MHV(M/ST)-MHV(M/ST)-M	0.5 m	MHV, Male, Straight	MHV, Male, Straight
HV-XXX-1.0-MHV(M/ST)-MHV(M/ST)-M	1.0 m	MHV, Male, Straight	MHV, Male, Straight
HV-XXX-2.0-MHV(M/ST)-MHV(M/ST)-M	2.0 m	MHV, Male, Straight	MHV, Male, Straight
HV-XXX-3.0-MHV(M/ST)-MHV(M/ST)-M	3.0 m	MHV, Male, Straight	MHV, Male, Straight
HV-XXX-5.0-MHV(M/ST)-MHV(M/ST)-M	5.0 m	MHV, Male, Straight	MHV, Male, Straight
<b>With SHV Connectors</b>			
HV-XXX-0.5-SHV(F/ST)-SHV(F/ST)-M	0.5 m	SHV, Female, Straight	SHV, Female, Straight
HV-XXX-1.0-SHV(F/ST)-SHV(F/ST)-M	1.0 m	SHV, Female, Straight	SHV, Female, Straight
HV-XXX-2.0-SHV(F/ST)-SHV(F/ST)-M	2.0 m	SHV, Female, Straight	SHV, Female, Straight
HV-XXX-3.0-SHV(F/ST)-SHV(F/ST)-M	3.0 m	SHV, Female, Straight	SHV, Female, Straight
HV-XXX-5.0-SHV(F/ST)-SHV(F/ST)-M	5.0 m	SHV, Female, Straight	SHV, Female, Straight

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