

3. Cables

3.1 Cable Models

3.1.1 Encoder Cable Model

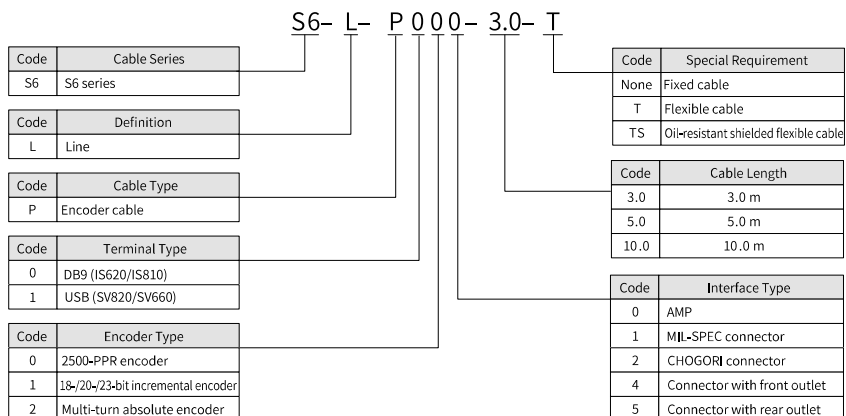


Figure 3-1 Description of encoder cable model

3.1.2 Power Cable Model

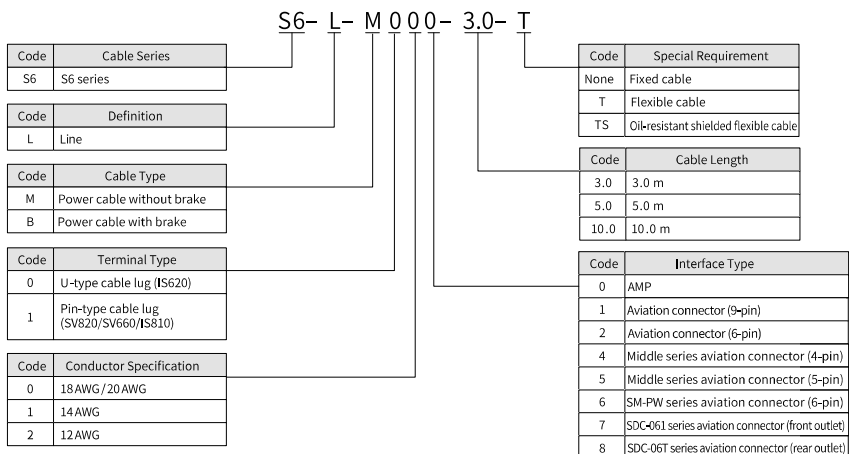


Figure 3-2 Description of power cable model



NOTE

- ◆ Cable models ending with "-T" are flexible cables fit for cable carriers. For example, model number "S6-L-P120-***" represents fixed cables; model number "S6-L-P120-**-T" represents flexible cables.
- ◆ Cable models ending with "-TS" are oil-resistant shielded flexible cables. Inovance encoder cables are shielded cables.

3.2 Cables Types

1 Fixed cables

Do not bend or move fixed cables during use. Bending or moving fixed cables may break cables and lead to a series of cable-related faults such as poor contact. Secure fixed cables through fixed binding and reserve certain bending radius to avoid stress on cables.

2 Flexible cables

Flexible cables can move along with cable carriers without high risk of abrasion.



NOTE

- ◆ Do not twine or twist cables inside the cable carrier.
- ◆ Ensure cables can move within the bending radius. Do not move cables by force. A relative movement between cables or between the cable and the guiding device must be available.
- ◆ Do not fix or bundle cables inside the cable carrier. Cables can be bundled and fixed only at the two unmovable ends of the cable carrier.

3 Oil-resistant shielded flexible cables

Oil-resistant shielded flexible cables apply to applications requiring shielded power cables, such as machine tools, cutting fluids, and cutting compounds.

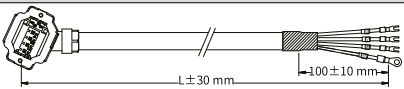
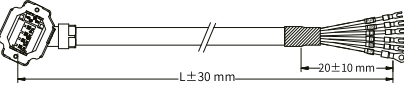
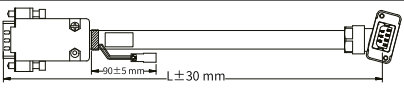
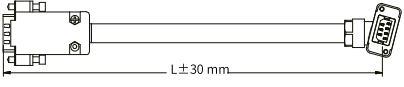
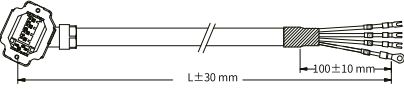
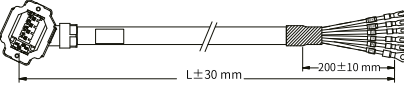
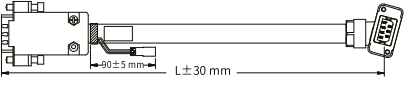
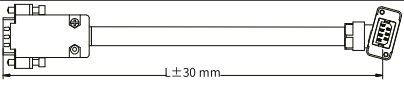


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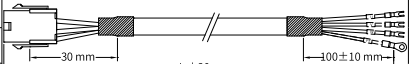
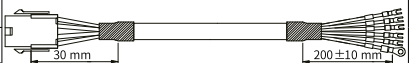
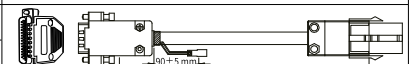
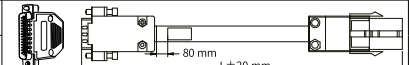
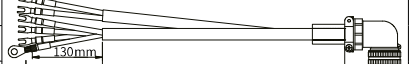
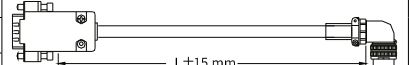
- ◆ S6-C24 cable kit is required for terminal-type motor encoder cables longer than 25 m. Contact Inovance sales staff for details on the cable length.
- ◆ For lead wire-type motor encoder cables longer than 25 m, contact Inovance sales staff.

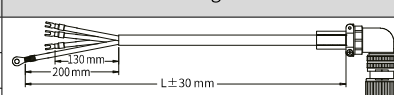
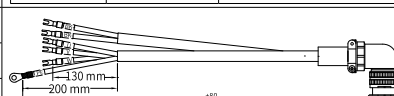
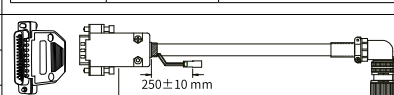
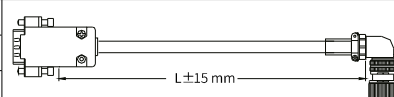
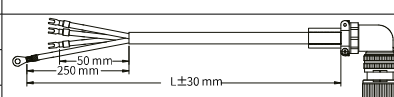
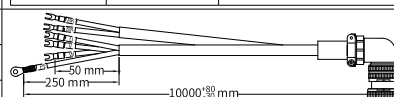
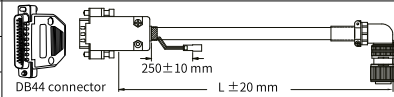
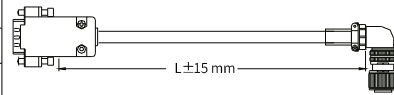
3.3 Selection of Motor Cables and Connectors

3.3.1 IS620 Series Servo Drives

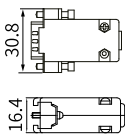
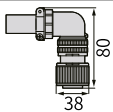
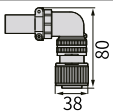
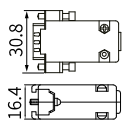
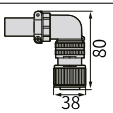
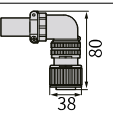
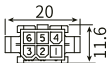
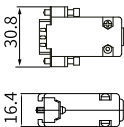
Motor Model	Flange Size	Cable Name		Cable Model	Length (mm)	Outline Drawing of the Cable
MS1H1 and MS1H4 terminal-type motors	40 60 80	Front outlet	Power cable (without brake)	S6-L-M007-3.0	3000	
				S6-L-M007-5.0	5000	
				S6-L-M007-10.0	10000	
			Power cable (with brake)	S6-L-B007-3.0	3000	
				S6-L-B007-5.0	5000	
				S6-L-B007-10.0	10000	
			Absolute encoder cable	S6-L-P024-3.0	3000	 The outer diameter of the sheath is 6.0 mm.
				S6-L-P024-5.0	5000	
				S6-L-P024-10.0	10000	
			Incremental encoder cable	S6-L-P014-3.0	3000	 The outer diameter of the sheath is 6.0 mm.
				S6-L-P014-5.0	5000	
				S6-L-P014-10.0	10000	
MS1H1 and MS1H4 terminal-type motors	40 60 80	Rear outlet	Power cable (without brake)	S6-L-M008-3.0	3000	
				S6-L-M008-5.0	5000	
				S6-L-M008-10.0	10000	
			Power cable (with brake)	S6-L-B008-3.0	3000	
				S6-L-B008-5.0	5000	
				S6-L-B008-10.0	10000	
			Absolute encoder cable	S6-L-P025-3.0	3000	 The outer diameter of the sheath is 6.0 mm.
				S6-L-P025-5.0	5000	
				S6-L-P025-10.0	10000	
			Incremental encoder cable	S6-L-P015-3.0	3000	 The outer diameter of the sheath is 6.0 mm.
				S6-L-P015-5.0	5000	
				S6-L-P015-10.0	10000	

3. Cables

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable
MS1H1 and MS1H4 lead wire-type motors	40 60 80	Power cable (without brake)	S6-L-M00-3.0	3000	 30 mm $L \pm 20$ mm 100 ± 10 mm
			S6-L-M00-5.0	5000	
			S6-L-M00-10.0	10000	
		Power cable (with brake)	S6-L-B00-3.0	3000	 30 mm $L \pm 20$ mm 200 ± 10 mm
			S6-L-B00-5.0	5000	
			S6-L-B00-10.0	10000	
		Absolute encoder cable	S6-L-P20-3.0	3000	 DB44 connector 90 ± 5 mm $L \pm 20$ mm
			S6-L-P20-5.0	5000	
			S6-L-P20-10.0	10000	
		Incremental encoder cable	S6-L-P00-3.0	3000	 DB44 connector 80 mm $L \pm 20$ mm
			S6-L-P00-5.0	5000	
			S6-L-P00-10.0	10000	
MS1H2 and MS1H3 connector-type motors	100 130	Power cable (without brake)	S6-L-M11-3.0	3000	 130 mm 200 mm $L \pm 30$ mm
			S6-L-M11-5.0	5000	
			S6-L-M11-10.0	10000	
		Power cable (with brake)	S6-L-B11-3.0	3000	 130 mm 200 mm $L \pm 30$ mm
			S6-L-B11-5.0	5000	
			S6-L-B11-10.0	10000	
		Absolute encoder cable	S6-L-P21-3.0	3000	 DB44 connector 250 ± 10 mm $L \pm 20$ mm
			S6-L-P21-5.0	5000	
			S6-L-P21-10.0	10000	
		Incremental encoder cable	S6-L-P01-3.0	3000	 $L \pm 15$ mm
			S6-L-P01-5.0	5000	
			S6-L-P01-10.0	10000	

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable								
MS1H3 connector-type motors (2.9 kW)	180	Power cable (without brake)	S6-L-M12-3.0	3000									
			S6-L-M12-5.0	5000									
			S6-L-M12-10.0	10000	<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm	10.2 mm
		Outer Diameter of the Sheath											
		Fixed Cable	Flexible Cable	Shielded Flexible Cable									
		9.5 mm	10.2 mm	10.6 mm									
		Power cable (with brake)	S6-L-B12-3.0	3000									
			S6-L-B12-5.0	5000									
			S6-L-B12-10.0	10000	<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm	10.2 mm
		Outer Diameter of the Sheath											
		Fixed Cable	Flexible Cable	Shielded Flexible Cable									
		9.5 mm	10.2 mm	10.6 mm									
Absolute encoder cable	S6-L-P21-3.0	3000	 DB44 connector The outer diameter of the sheath is 6.0 mm.										
	S6-L-P21-5.0	5000											
	S6-L-P21-10.0	10000											
Incremental encoder cable	S6-L-P01-3.0	3000	 The outer diameter of the sheath is 6.0 mm.										
	S6-L-P01-5.0	5000											
	S6-L-P01-10.0	10000											
MS1H3 connector-type motors (4.4 kW and above)	180	Power cable (without brake)	S6-L-M22-3.0	3000									
			S6-L-M22-5.0	5000									
			S6-L-M22-10.0	10000	<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>12.2 mm</td><td>12.5 mm</td><td>13.2 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	12.2 mm	12.5 mm
		Outer Diameter of the Sheath											
		Fixed Cable	Flexible Cable	Shielded Flexible Cable									
		12.2 mm	12.5 mm	13.2 mm									
		Power cable (with brake)	S6-L-B22-3.0	3000									
			S6-L-B22-5.0	5000									
			S6-L-B22-10.0	10000	<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>12.2 mm</td><td>12.5 mm</td><td>13.2 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	12.2 mm	12.5 mm
		Outer Diameter of the Sheath											
		Fixed Cable	Flexible Cable	Shielded Flexible Cable									
		12.2 mm	12.5 mm	13.2 mm									
Absolute encoder cable	S6-L-P21-3.0	3000	 DB44 connector The outer diameter of the sheath is 6.0 mm.										
	S6-L-P21-5.0	5000											
	S6-L-P21-10.0	10000											
Incremental encoder cable	S6-L-P01-3.0	3000	 The outer diameter of the sheath is 6.0 mm.										
	S6-L-P01-5.0	5000											
	S6-L-P01-10.0	10000											

3. Cables

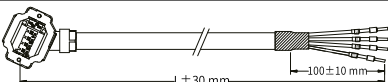
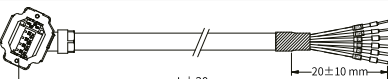
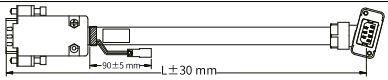
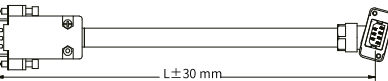
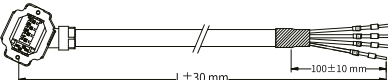
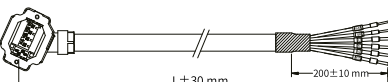
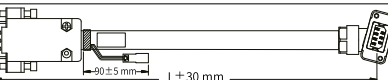
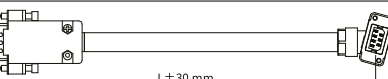
Applicable Motor Model	Connector Kit	Outline Drawing and Dimensions			
MS1H2	S6-C2				
MS1H3/MS1V3 (1.8 kW and below)	S6-C2	DB44 connector	DB9 connector	3108E20-29S aviation connector	3108E20-18S aviation connector
MS1H3 (2.9 kW and above)	S6-C3				
MS1H1/MS1H4 lead wire-type (Z-S) motors	S6-C1				



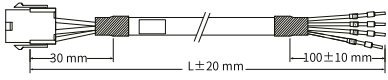
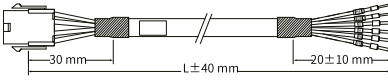
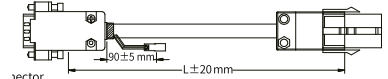
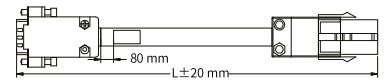
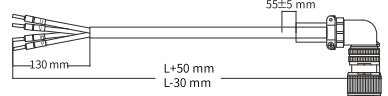
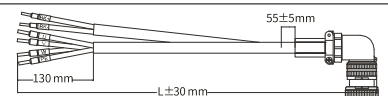
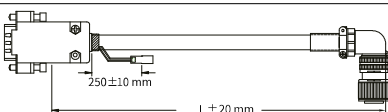
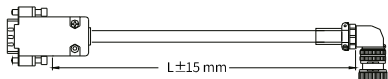
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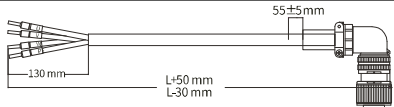
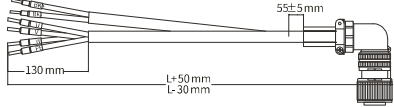
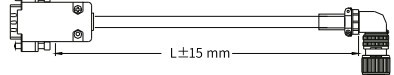
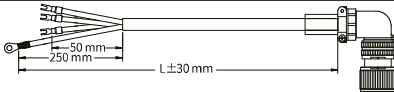
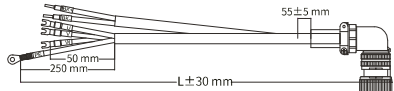
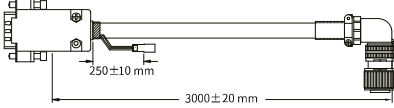
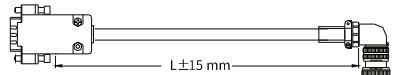
◆ Connector kits are needed only when customized cables are used.

3.3.2 IS810N-INT Series Servo Drives

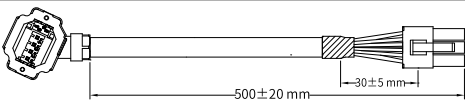
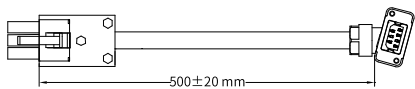
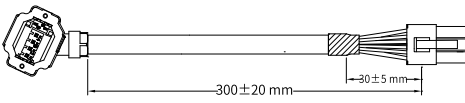
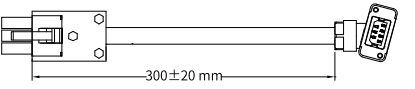
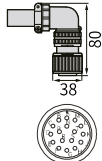
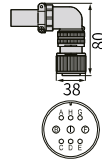
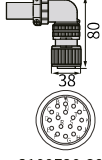
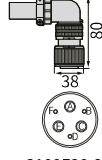
Motor Model	Flange Size	Cable Name		Cable Model	Length (mm)	Outline Drawing of the Cable								
MS1H1 and MS1H4 terminal-type motors	40 60 80	Front outlet	Power cable (without brake)	S6-L-M107-3.0	3000	 L ± 30 mm 100 ± 10 mm								
				S6-L-M107-5.0	5000									
				S6-L-M107-10.0	10000	<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable	Shielded Flexible Cable									
			6.5 mm	6.5 mm	6.5 mm									
			Power cable (with brake)	S6-L-B107-3.0	3000	 L ± 30 mm 20 ± 10 mm								
				S6-L-B107-5.0	5000									
				S6-L-B107-10.0	10000	<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable	Shielded Flexible Cable									
			6.5 mm	6.5 mm	6.5 mm									
Absolute encoder cable	S6-L-P024-3.0	3000	 90 ± 5 mm L ± 30 mm											
	S6-L-P024-5.0	5000												
	S6-L-P024-10.0	10000												
Incremental encoder cable	S6-L-P014-3.0	3000	 L ± 30 mm											
	S6-L-P014-5.0	5000												
	S6-L-P014-10.0	10000												
MS1H1 and MS1H4 terminal-type motors	40 60 80	Rear outlet	Power cable (without brake)	S6-L-M108-3.0	3000	 L ± 30 mm 100 ± 10 mm								
				S6-L-M108-5.0	5000									
				S6-L-M108-10.0	10000	<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable	Shielded Flexible Cable									
			6.5 mm	6.5 mm	6.5 mm									
			Power cable (with brake)	S6-L-B108-3.0	3000	 L ± 30 mm 200 ± 10 mm								
				S6-L-B108-5.0	5000									
				S6-L-B108-10.0	10000	<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable	Shielded Flexible Cable									
			6.5 mm	6.5 mm	6.5 mm									
Absolute encoder cable	S6-L-P025-3.0	3000	 90 ± 5 mm L ± 30 mm											
	S6-L-P025-5.0	5000												
	S6-L-P025-10.0	10000												
Incremental encoder cable	S6-L-P015-3.0	3000	 L ± 30 mm											
	S6-L-P015-5.0	5000												
	S6-L-P015-10.0	10000												

3. Cables

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable									
MS1H1 and MS1H4 lead wire-type motors	40 60 80	Power cable (without brake)	S6-L-M100-3.0	3000	 <table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable		Shielded Flexible Cable								
		6.5 mm	6.5 mm	6.5 mm										
		S6-L-M100-5.0	5000											
		S6-L-M100-10.0	10000											
		Power cable (with brake)	S6-L-B100-3.0	3000	 <table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable		Shielded Flexible Cable								
		6.5 mm	6.5 mm	6.5 mm										
		S6-L-B100-5.0	5000											
		S6-L-B100-10.0	10000											
Absolute encoder cable	S6-L-P020-3.0	3000	 The outer diameter of the sheath is 6.0 mm.											
	S6-L-P020-5.0	5000												
	S6-L-P020-10.0	10000												
Incremental encoder cable	S6-L-P010-3.0	3000	 The outer diameter of the sheath is 6.0 mm.											
	S6-L-P010-5.0	5000												
	S6-L-P010-10.0	10000												
MS1H2 and MS1H3 connector-type motors	100 130	Power cable (motor without brake)	S6-L-M111-3.0	3000	 <table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm	10.2 mm	10.6 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable		Shielded Flexible Cable								
		9.5 mm	10.2 mm	10.6 mm										
		S6-L-M111-5.0	5000											
		S6-L-M111-10.0	10000											
		Power cable (motor with brake)	S6-L-B111-3.0	3000	 <table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm	10.2 mm	10.6 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable		Shielded Flexible Cable								
		9.5 mm	10.2 mm	10.6 mm										
		S6-L-B111-5.0	5000											
		S6-L-B111-10.0	10000											
Absolute encoder cable	S6-L-P021-3.0	3000	 The outer diameter of the sheath is 6.0 mm.											
	S6-L-P021-5.0	5000												
	S6-L-P021-10.0	10000												
Incremental encoder cable	S6-L-P011-3.0	3000	 The outer diameter of the sheath is 6.0 mm.											
	S6-L-P011-5.0	5000												
	S6-L-P011-10.0	10000												

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable										
MS1H3 connector-type motors (2.9 kW)	180	Power cable (without brake)	S6-L-M112-3.0	3000											
			S6-L-M112-5.0	5000											
			S6-L-M112-10.0	10000											
		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>					Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm	10.2 mm	10.6 mm
		Outer Diameter of the Sheath													
		Fixed Cable	Flexible Cable	Shielded Flexible Cable											
		9.5 mm	10.2 mm	10.6 mm											
		Power cable (with brake)	S6-L-B112-3.0	3000											
			S6-L-B112-5.0	5000											
			S6-L-B112-10.0	10000											
		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>					Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm	10.2 mm	10.6 mm
		Outer Diameter of the Sheath													
Fixed Cable	Flexible Cable	Shielded Flexible Cable													
9.5 mm	10.2 mm	10.6 mm													
Absolute encoder cable	S6-L-P021-3.0	3000													
	S6-L-P021-5.0	5000													
	S6-L-P021-10.0	10000													
The outer diameter of the sheath is 6.0 mm.															
Incremental encoder cable	S6-L-P011-3.0	3000													
	S6-L-P011-5.0	5000													
	S6-L-P011-10.0	10000													
The outer diameter of the sheath is 6.0 mm.															
MS1H3 connector-type motors (4.4 kW and above)	180	Power cable (without brake)	S6-L-M022-3.0	3000											
			S6-L-M022-5.0	5000											
			S6-L-M022-10.0	10000											
		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>12.2 mm</td><td>12.5 mm</td><td>13.2 mm</td></tr></table>					Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	12.2 mm	12.5 mm	13.2 mm
		Outer Diameter of the Sheath													
		Fixed Cable	Flexible Cable	Shielded Flexible Cable											
		12.2 mm	12.5 mm	13.2 mm											
		Power cable (with brake)	S6-L-B022-3.0	3000											
			S6-L-B022-5.0	5000											
			S6-L-B022-10.0	10000											
		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>12.2 mm</td><td>12.5 mm</td><td>13.2 mm</td></tr></table>					Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	12.2 mm	12.5 mm	13.2 mm
		Outer Diameter of the Sheath													
Fixed Cable	Flexible Cable	Shielded Flexible Cable													
12.2 mm	12.5 mm	13.2 mm													
Absolute encoder cable	S6-L-P021-3.0	3000													
	S6-L-P021-5.0	5000													
	S6-L-P021-10.0	10000													
The outer diameter of the sheath is 6.0 mm.															
Incremental encoder cable	S6-L-P011-3.0	3000													
	S6-L-P011-5.0	5000													
	S6-L-P011-10.0	10000													
The outer diameter of the sheath is 6.0 mm.															

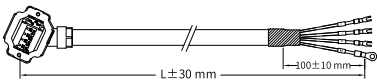
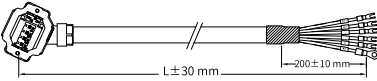
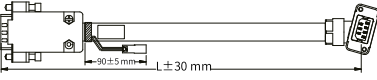
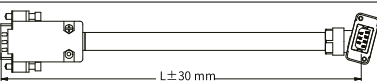
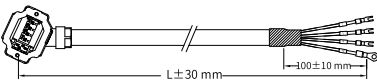
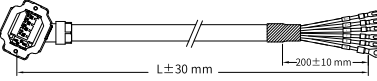
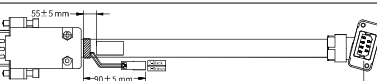
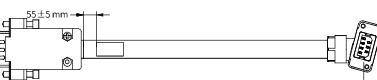
3. Cables

Applicable Motor Model	Connector Kit	Outline Drawing and Dimensions
MS1H1-*****-A3*** MS1H4-*****-A3*** (100 W to 1 kW)	S6-C23 S6-C24	   
MS1H2-*****-A3*** (1.0 kW to 2.5 kW)	S6-C2	    DB44 connector DB9 connector 3108E20-29S aviation connector 3108E20-18S aviation connector
MS1H2-*****-A3*** (3.0 kW to 5.0 kW)	S6-C2	
MS1H3-*****-A3*** (850 W to 1.8 kW)	S6-C2	    DB44 connector DB9 connector 3108E20-29S aviation connector 3108E20-22S aviation connector
MS1H3-*****-A3*** (2.9 kW to 7.5 kW)	S6-C3	

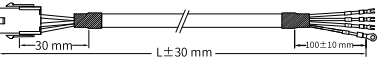
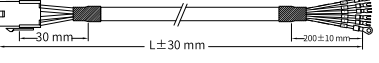
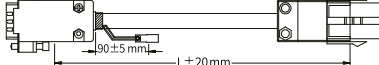
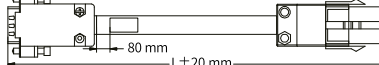
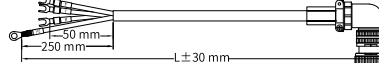
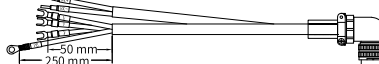
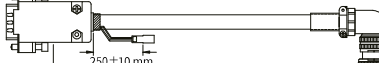
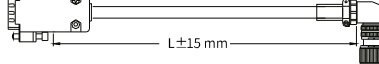


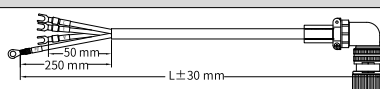
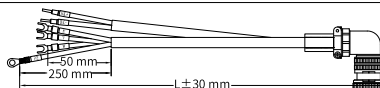
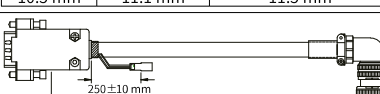
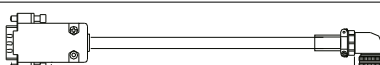
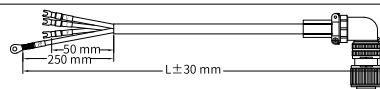
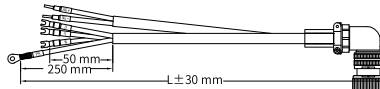
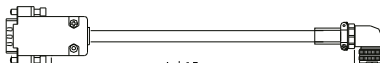
◆ Connector kits are needed only when customized cables are used.

3.3.3 IS810P Series Servo Drives

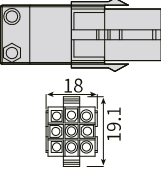
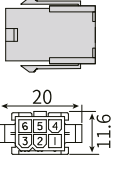
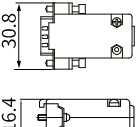
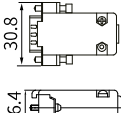
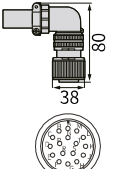
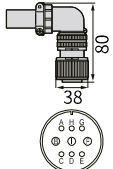
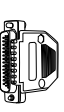
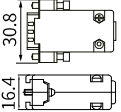
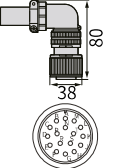
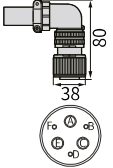
Motor Model	Flange Size	Cable Name		Cable Model	Length (mm)	Outline Drawing of the Cable
MS1H1 and MS1H4 terminal-type motors	40 60 80	Front outlet	Power cable (without brake)	S6-L-M007-3.0-810P	3000	
				S6-L-M007-5.0-810P	5000	
				S6-L-M007-10.0-810P	10000	
			Power cable (with brake)	S6-L-B007-3.0-810P	3000	
				S6-L-B007-5.0-810P	5000	
				S6-L-B007-10.0-810P	10000	
			Absolute encoder cable	S6-L-P024-3.0	3000	
				S6-L-P024-5.0	5000	
				S6-L-P024-10.0	10000	
			Incremental encoder cable	S6-L-P014-3.0	3000	
				S6-L-P014-5.0	5000	
				S6-L-P014-10.0	10000	
MS1H1 and MS1H4 terminal-type motors	40 60 80	Rear outlet	Power cable (without brake)	S6-L-M008-3.0-810P	3000	
				S6-L-M008-5.0-810P	5000	
				S6-L-M008-10.0-810P	10000	
			Power cable (with brake)	S6-L-B008-3.0-810P	3000	
				S6-L-B008-5.0-810P	5000	
				S6-L-B008-10.0-810P	10000	
			Absolute encoder cable	S6-L-P025-3.0	3000	
				S6-L-P025-5.0	5000	
				S6-L-P025-10.0	10000	
			Incremental encoder cable	S6-L-P015-3.0	3000	
				S6-L-P015-5.0	5000	
				S6-L-P015-10.0	10000	

3. Cables

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable
MS1H1 and MS1H4 lead wire-type motors	40 60 80	Power cable (without brake)	S6-L-M000-3.0-810P	3000	
			S6-L-M000-5.0-810P	5000	
			S6-L-M000-10.0-810P	10000	
		Power cable (with brake)	S6-L-B000-3.0-810P	3000	
			S6-L-B000-5.0-810P	5000	
			S6-L-B000-10.0-810P	10000	
		Absolute encoder cable	S6-L-P020-3.0	3000	
			S6-L-P020-5.0	5000	
			S6-L-P020-10.0	10000	
		Incremental encoder cable	S6-L-P010-3.0	3000	
			S6-L-P010-5.0	5000	
			S6-L-P010-10.0	10000	
MS1H2 and MS1H3 connector-type motors	100 130	Power cable (without brake)	S6-L-M011-3.0-810P	3000	
			S6-L-M011-5.0-810P	5000	
			S6-L-M011-10.0-810P	10000	
		Power cable (with brake)	S6-L-B011-3.0-810P	3000	
			S6-L-B011-5.0-810P	5000	
			S6-L-B011-10.0-810P	10000	
		Absolute encoder cable	S6-L-P021-3.0	3000	
			S6-L-P021-5.0	5000	
			S6-L-P021-10.0	10000	
		Incremental encoder cable	S6-L-P011-3.0	3000	
			S6-L-P011-5.0	5000	
			S6-L-P011-10.0	10000	

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable
MS1H3 connector-type motors (2.9 kW)	180	Power cable (without brake)	S6-L-M012-3.0-810P	3000	
			S6-L-M012-5.0-810P	5000	
			S6-L-M012-10.0-810P	10000	
		Power cable (with brake)	S6-L-B012-3.0-810P	3000	
			S6-L-B012-5.0-810P	5000	
			S6-L-B012-10.0-810P	10000	
		Absolute encoder cable	S6-L-P021-3.0	3000	
			S6-L-P021-5.0	5000	
			S6-L-P021-10.0	10000	
		Incremental encoder cable	S6-L-P011-3.0	3000	
			S6-L-P011-5.0	5000	
			S6-L-P011-10.0	10000	
MS1H3 connector-type motors (4.4 kW and above)	180	Power cable (without brake)	S6-L-M022-3.0-810P	3000	
			S6-L-M022-5.0-810P	5000	
			S6-L-M022-10.0-810P	10000	
		Power cable (with brake)	S6-L-B022-3.0-810P	3000	
			S6-L-B022-5.0-810P	5000	
			S6-L-B022-10.0-810P	10000	
		Absolute encoder cable	S6-L-P021-3.0	3000	
			S6-L-P021-5.0	5000	
			S6-L-P021-10.0	10000	
		Incremental encoder cable	S6-L-P011-3.0	3000	
			S6-L-P011-5.0	5000	
			S6-L-P011-10.0	10000	

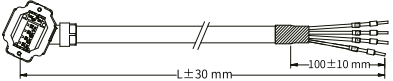
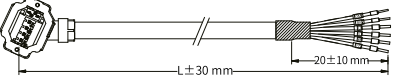
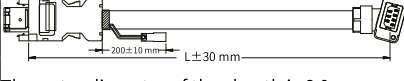
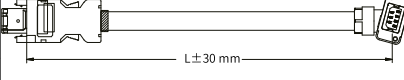
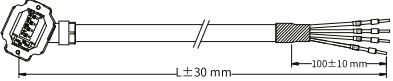
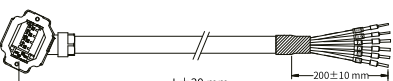
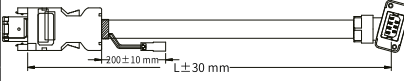
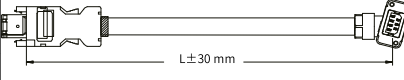
3. Cables

Applicable Motor	Connector Kit	Outline Drawing and Dimensions			
MS1H1/MS1H4 lead wire-type (Z-S) motors	S6-C1	 9-pin connector	 Pin base	 DB44 connector	 DB9 connector
MS1H2	S6-C2	 DB44 connector	 DB9 connector	 3108E20-29S aviation connector	 3108E20-18S aviation connector
MS1H3 (1.8 kW and below)					
MS1MH3 (2.9 kW and above)	S6-C3	 DB44 connector	 DB9 connector	 3108E20-29S aviation connector	 3108E20-22S aviation connector

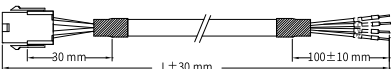
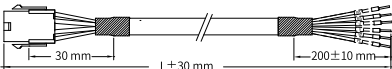
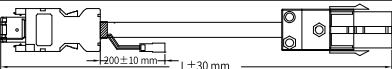
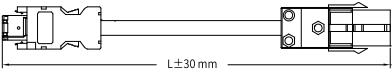


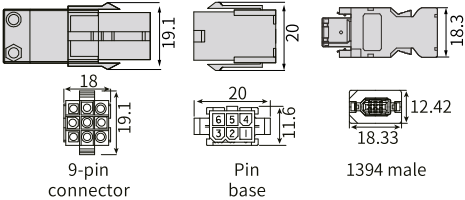
◆ Connector kits are needed only when customized cables are used.

3.3.4 SV820N Series Servo Drives

Motor Model	Flange Size	Cable Name		Cable Model	Length (mm)	Outline Drawing of the Cable
MS1H1 and MS1H4 terminal-type motors	40 60 80	Front outlet	Power cable (without brake)	S6-L-M107-3.0	3000	
				S6-L-M107-5.0	5000	
				S6-L-M107-10.0	10000	
			Power cable (with brake)	S6-L-B107-3.0	3000	
				S6-L-B107-5.0	5000	
				S6-L-B107-10.0	10000	
			Absolute encoder cable	S6-L-P124-3.0	3000	
				S6-L-P124-5.0	5000	
				S6-L-P124-10.0	10000	
			Incremental encoder cable	S6-L-P114-3.0	3000	
				S6-L-P114-5.0	5000	
				S6-L-P114-10.0	10000	
MS1H1 and MS1H4 terminal-type motors	40 60 80	Rear outlet	Power cable (without brake)	S6-L-M108-3.0	3000	
				S6-L-M108-5.0	5000	
				S6-L-M108-10.0	10000	
			Power cable (with brake)	S6-L-B108-3.0	3000	
				S6-L-B108-5.0	5000	
				S6-L-B108-10.0	10000	
			Absolute encoder cable	S6-L-P125-3.0	3000	
				S6-L-P125-5.0	5000	
				S6-L-P125-10.0	10000	
			Incremental encoder cable	S6-L-P115-3.0	3000	
				S6-L-P115-5.0	5000	
				S6-L-P115-10.0	10000	

3. Cables

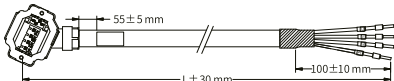
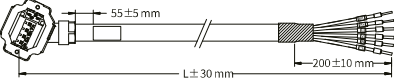
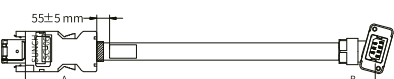
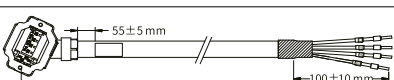
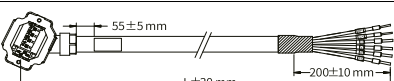
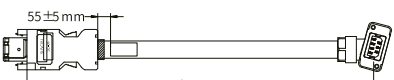
Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable	
MS1H1 and MS1H4 lead wire-type motors	40 60 80	Power cable (without brake)	S6-L-M100-3.0	3000		
			S6-L-M100-5.0	5000		
			S6-L-M100-10.0	10000		
		Power cable (with brake)	S6-L-B100-3.0	3000		
			S6-L-B100-5.0	5000		
			S6-L-B100-10.0	10000		
		Absolute encoder cable	S6-L-P120-3.0	3000		
			S6-L-P120-5.0	5000		
			S6-L-P120-10.0	10000		
		Incremental encoder cable	S6-L-P110-3.0	3000		
			S6-L-P110-5.0	5000		
			S6-L-P110-10.0	10000		
						The outer diameter of the sheath is 6.0 mm.
						The outer diameter of the sheath is 6.0 mm.

Applicable Motor	Connector Kit	Outline Drawing and Dimensions
MS1H1/MS1H4 lead wire-type (Z-S) motors	S6-C26	 9-pin connector Pin base 1394 male

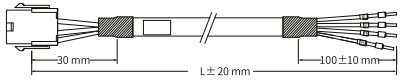
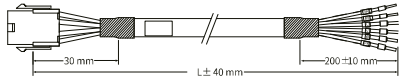
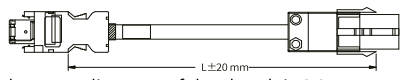
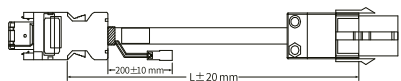
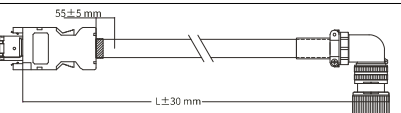
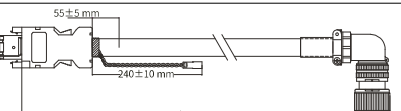


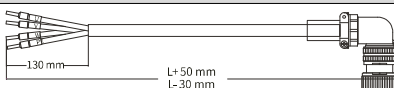
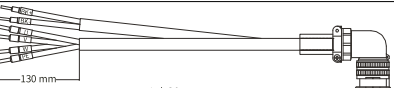
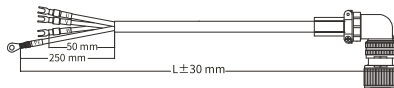
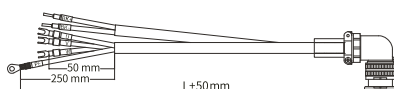
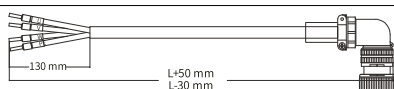
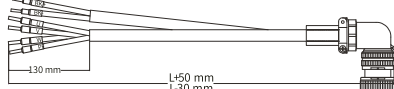
◆ Connector kits are needed only when customized cables are used.

3.3.5 SV660P/N Series Servo Drives

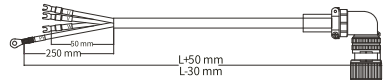
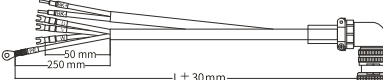
Motor Model	Flange Size	Cable Name		Cable Model	Length (mm)	Outline Drawing of the Cable								
MS1H1 and MS1H4 terminal-type motors	40 60 80	Front outlet	Power cable (without brake)	S6-L-M107-3.0	3000									
				S6-L-M107-5.0	5000									
				S6-L-M107-10.0	10000	<table border="1"><thead><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr></thead><tbody><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></tbody></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable	Shielded Flexible Cable									
			6.5 mm	6.5 mm	6.5 mm									
			Power cable (with brake)	S6-L-B107-3.0	3000									
				S6-L-B107-5.0	5000									
				S6-L-B107-10.0	10000	<table border="1"><thead><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr></thead><tbody><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></tbody></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable	Shielded Flexible Cable									
			6.5 mm	6.5 mm	6.5 mm									
	Incremental encoder cable	S6-L-P114-3.0	3000	 The outer diameter of the sheath is 6.0 mm.										
		S6-L-P114-5.0	5000											
		S6-L-P114-10.0	10000											
	Absolute encoder cable	S6-L-P124-3.0	3000	 The outer diameter of the sheath is 6.0 mm.										
		S6-L-P124-5.0	5000											
		S6-L-P124-10.0	10000											
	40 60 80	Rear outlet	Power cable (without brake)	S6-L-M108-3.0	3000									
				S6-L-M108-5.0	5000									
				S6-L-M108-10.0	10000	<table border="1"><thead><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr></thead><tbody><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></tbody></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable	Shielded Flexible Cable									
			6.5 mm	6.5 mm	6.5 mm									
Power cable (with brake)			S6-L-B108-3.0	3000										
			S6-L-B108-5.0	5000										
			S6-L-B108-10.0	10000	<table border="1"><thead><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr></thead><tbody><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></tbody></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm	6.5 mm
Outer Diameter of the Sheath														
Fixed Cable			Flexible Cable	Shielded Flexible Cable										
6.5 mm			6.5 mm	6.5 mm										
Incremental encoder cable	S6-L-P115-3.0	3000	 The outer diameter of the sheath is 6.0 mm.											
	S6-L-P115-5.0	5000												
	S6-L-P115-10.0	10000												
Absolute encoder cable	S6-L-P125-3.0	3000	 The outer diameter of the sheath is 6.0 mm.											
	S6-L-P125-5.0	5000												
	S6-L-P125-10.0	10000												

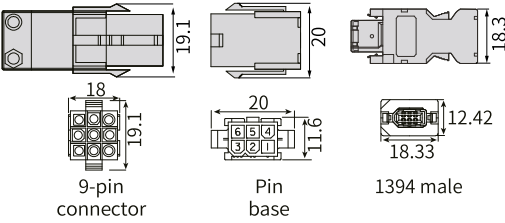
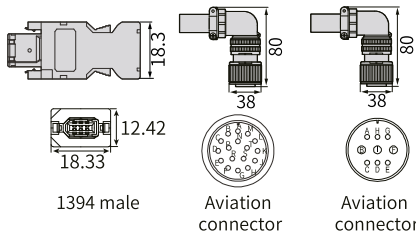
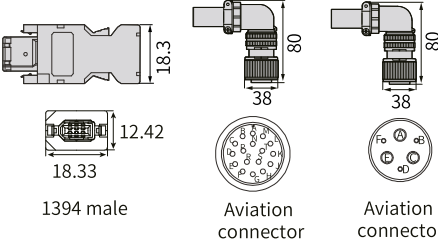
3. Cables

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable									
MS1H1 and MS1H4 lead wire-type motors	40 60 80	Power cable (without brake)	S6-L-M100-3.0	3000	 <table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable		Shielded Flexible Cable								
		6.5 mm	6.5 mm	6.5 mm										
		S6-L-M100-5.0	5000											
		S6-L-M100-10.0	10000											
		Power cable (with brake)	S6-L-B100-3.0	3000	 <table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>6.5 mm</td><td>6.5 mm</td><td>6.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	6.5 mm	6.5 mm	6.5 mm
			Outer Diameter of the Sheath											
			Fixed Cable	Flexible Cable		Shielded Flexible Cable								
		6.5 mm	6.5 mm	6.5 mm										
		S6-L-B100-5.0	5000											
		S6-L-B100-10.0	10000											
Incremental encoder cable	S6-L-P110-3.0	3000	 The outer diameter of the sheath is 6.0 mm.											
	S6-L-P110-5.0	5000												
	S6-L-P110-10.0	10000												
Absolute encoder cable	S6-L-P120-3.0	3000	 The outer diameter of the sheath is 6.0 mm.											
	S6-L-P120-5.0	5000												
	S6-L-P120-10.0	10000												
MS1H2 and MS1H3 motors	100 130 180	Incremental encoder cable	S6-L-P111-3.0	3000	 The outer diameter of the sheath is 6.0 mm.									
			S6-L-P111-5.0	5000										
			S6-L-P111-10.0	10000										
		Absolute encoder cable	S6-L-P121-3.0	3000	 The outer diameter of the sheath is 6.0 mm.									
			S6-L-P121-5.0	5000										
			S6-L-P121-10.0	10000										

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable								
MS1H2 motors (3 kW and below) and MS1H3 motors (1.8 kW and below)	100 130	Power cable (without brake)	S6-L-M111-3.0	3000	 130 mm L+50 mm L-30 mm								
			S6-L-M111-5.0	5000									
			S6-L-M111-10.0	10000		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm
		Outer Diameter of the Sheath											
		Fixed Cable	Flexible Cable	Shielded Flexible Cable									
		9.5 mm	10.2 mm	10.6 mm									
Power cable (with brake)	S6-L-B111-3.0	3000	 130 mm L±30 mm										
	S6-L-B111-5.0	5000											
	S6-L-B111-10.0	10000		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm	10.2 mm	10.6 mm
Outer Diameter of the Sheath													
Fixed Cable	Flexible Cable	Shielded Flexible Cable											
9.5 mm	10.2 mm	10.6 mm											
MS1H2 motors (4 kW/ 5 kW)	130	Power cable (without brake)	S6-L-M011-3.0	3000	 50 mm 250 mm L±30 mm								
			S6-L-M011-5.0	5000									
			S6-L-M011-10.0	10000		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>10.5 mm</td><td>11.1 mm</td><td>11.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	10.5 mm
		Outer Diameter of the Sheath											
		Fixed Cable	Flexible Cable	Shielded Flexible Cable									
		10.5 mm	11.1 mm	11.5 mm									
Power cable (with brake)	S6-L-B011-3.0	3000	 50 mm 250 mm L+50 mm L-30 mm										
	S6-L-B011-5.0	5000											
	S6-L-B011-10.0	10000		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>10.5 mm</td><td>11.1 mm</td><td>11.5 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	10.5 mm	11.1 mm	11.5 mm
Outer Diameter of the Sheath													
Fixed Cable	Flexible Cable	Shielded Flexible Cable											
10.5 mm	11.1 mm	11.5 mm											
MS1H3 motors (2.9 kW)	180	Power cable (without brake)	S6-L-M112-3.0	3000	 130 mm L+50 mm L-30 mm								
			S6-L-M112-5.0	5000									
			S6-L-M112-10.0	10000		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm
		Outer Diameter of the Sheath											
		Fixed Cable	Flexible Cable	Shielded Flexible Cable									
		9.5 mm	10.2 mm	10.6 mm									
Power cable (with brake)	S6-L-B112-3.0	3000	 130 mm L+50 mm L-30 mm										
	S6-L-B112-5.0	5000											
	S6-L-B112-10.0	10000		<table><tr><th colspan="3">Outer Diameter of the Sheath</th></tr><tr><th>Fixed Cable</th><th>Flexible Cable</th><th>Shielded Flexible Cable</th></tr><tr><td>9.5 mm</td><td>10.2 mm</td><td>10.6 mm</td></tr></table>	Outer Diameter of the Sheath			Fixed Cable	Flexible Cable	Shielded Flexible Cable	9.5 mm	10.2 mm	10.6 mm
Outer Diameter of the Sheath													
Fixed Cable	Flexible Cable	Shielded Flexible Cable											
9.5 mm	10.2 mm	10.6 mm											

3. Cables

Motor Model	Flange Size	Cable Name	Cable Model	Length (mm)	Outline Drawing of the Cable
MS1H3 motors (4.4 kW and above)	180	Power cable (without brake)	S6-L-M022-3.0	3000	
			S6-L-M022-5.0	5000	
			S6-L-M022-10.0	10000	
		Outer Diameter of the Sheath			
		Fixed Cable	Flexible Cable	Shielded Flexible Cable	
		12.2 mm	12.5 mm	13.2 mm	
	Power cable (with brake)	S6-L-B022-3.0	3000		
		S6-L-B022-5.0	5000		
		S6-L-B022-10.0	10000		
Outer Diameter of the Sheath					
Fixed Cable	Flexible Cable	Shielded Flexible Cable			
12.2 mm	12.5 mm	13.2 mm			

Applicable Motor	Connector Kit	Outline Drawing and Dimensions
MS1H1/MS1H4 lead wire-type (Z-S) motors	S6-C26	 9-pin connector Pin base 1394 male
MS1H2/MS1H3 (1.8 kW and below)	S6-C29	 1394 male Aviation connector Aviation connector
MS1H3 (2.9 kW and above)	S6-C39	 1394 male Aviation connector Aviation connector



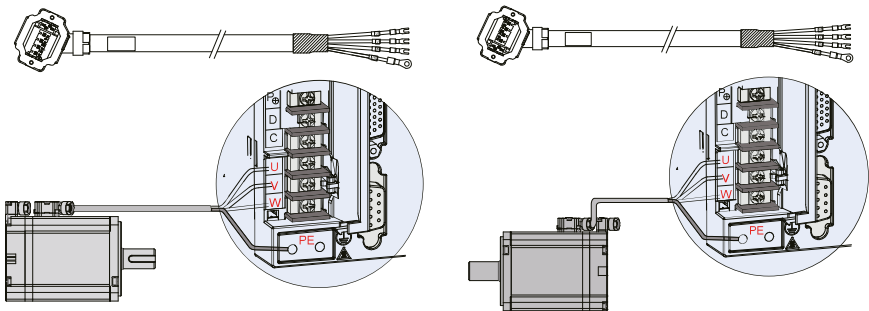
NOTE

◆ Connector kits are needed only when customized cables are used.

3.4 Cable Connections

3.4.1 Connecting Motor Power Cables

1 Connecting to IS620 series servo drives



Motor cable outlet direction: front outlet

Motor cable outlet direction: rear outlet

Figure 3-3 Connection between IS620 series servo drive and servo motor

Table 3-1 Power cable connector of terminal-type servo motors (motor side)

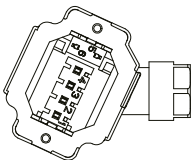
Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		Pin No.	Signal Name	Color
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	 SDC-06T (manufacturer: JONHON)	1	PE	Yellow/ Green
		2	W	Red
		3	V	Black
		4	U	White
		5	Brake +	Brown
		6	Brake -	Blue

Table 3-2 Power cable connector of connector-type servo motors (motor side)

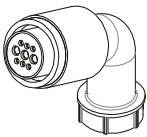
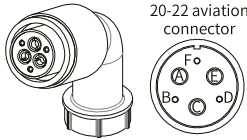
Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		New Structure		Color
		Pin No.	Signal Name	
Connector-type motors: 100 130	 MIL-DTL-5015 series 3108E20-18S aviation connector	B	U	Blue
		I	V	Black
		F	W	Red
		G	PE	Yellow/Green
		C	Brake (+)	-
		E	Brake (-)	-

Table 3-3 Power cable connector of connector-type servo motors (motor side)

Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Pin Layout		
		Pin No.	Signal Name	Color
Connector-type motors: 180	 20-22 aviation connector MIL-DTL-5015 series 3108E20-22S aviation connector	A	U	Blue
		C	V	Black
		E	W	Red
		F	PE	Yellow/Green
		B	Brake (-)	-
		D	Brake (+)	



NOTE

- ◆ The flange size refers to the width of the mounting flange.
- ◆ Power cable colors are subject to the actual cables. Cable colors mentioned in this user guide all refer to Inovance cables.

2 Connecting to IS810N-INT series servo drives

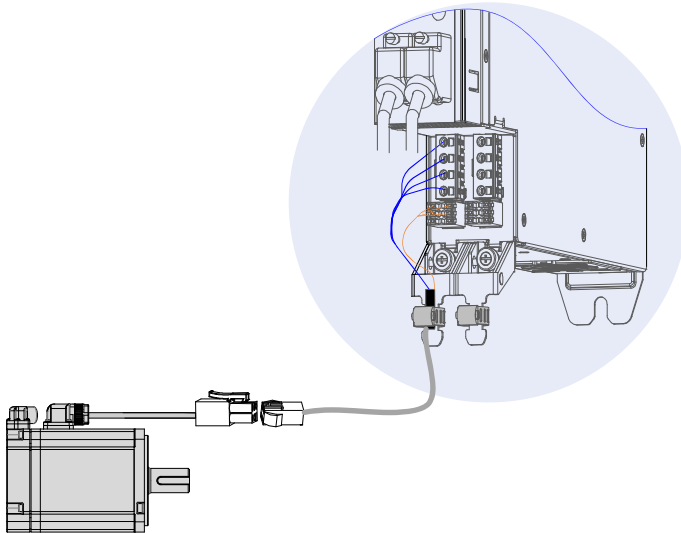


Figure 3-4 Connection between IS810-INT series servo drive and servo motor

Table 3-4 Power cable connector of terminal-type and lead wire-type servo motors (motor side)

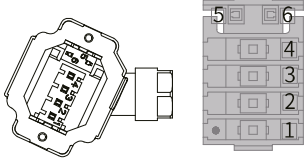
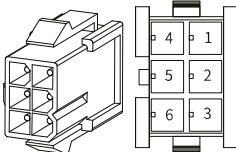
Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		Pin No.	Signal Name	Color
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	 SDC-06T (manufacturer: JONHON)	1	PE	Yellow/ Green
		2	W	Red
		3	V	Black
		4	U	White
		5	Brake Polarity insensitive	Brown
		6		Blue
Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	 Black 6-pin connector Recommendation: Plastic housing: MOLEX-50361736 Terminal: MOLEX-39000061	1	U	White
		2	V	Black
		4	W	Red
		5	PE	Yellow/ Green
		3	Brake (polarity insensitive)	-
		6		

Table 3-5 Power cable connector of connector-type servo motors (motor side)

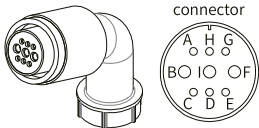
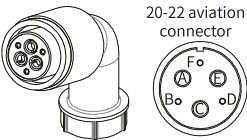
Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		Pin No.	Signal Name	Color
Connector-type motors: 100 130	 20-18 aviation connector MIL-DTL-5015 series 3108E20-18S aviation connector	B	U	Blue
		I	V	Black
		F	W	Red
		G	PE	Yellow/Green
		C	Brake (+)	-
		E	Brake (-)	-

Table 3-6 Power cable connector of connector-type servo motors (motor side)

Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Pin Layout		
		Pin No.	Signal Name	Color
Connector-type motors: 180	 MIL-DTL-5015 series 3108E20-22S aviation connector	A	U	Blue
		C	V	Black
		E	W	Red
		F	PE	Yellow/Green
		B	Brake (-)	-
		D	Brake (+)	



NOTE

- ◆ The flange size refers to the width of the mounting flange.
- ◆ Power cable colors are subject to the actual cables. Cable colors mentioned in this user guide all refer to Inovance cables.

3 Connecting to IS810P series servo drives

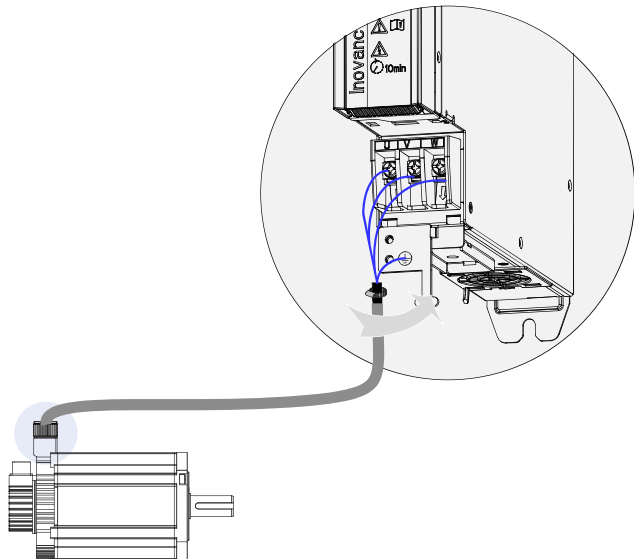


Figure 3-5 Connection between IS810P series servo drive and servo motor

Table 3-7 Power cable connectors of terminal-type and lead wire-type servo motors (motor side)

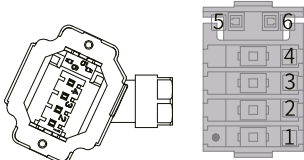
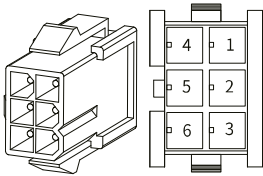
Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		Pin No.	Signal Name	Color
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	 SDC-06T (manufacturer: JONHON)	1	PE	Yellow/ Green
		2	W	Red
		3	V	Black
		4	U	White
		5	Brake +	Brown
		6	Brake -	Blue
Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	 Black 6-pin connector Recommendation: Plastic housing: MOLEX-50361736 Terminal: MOLEX-39000061	1	U	White
		2	V	Black
		4	W	Red
		5	PE	Yellow/ Green
		3	Brake (polarity insensitive)	-
		6		

Table 3-8 Power cable connector of connector-type servo motors (motor side)

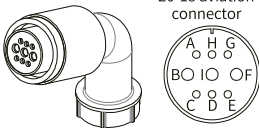
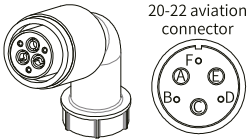
Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		New Structure		Color
		Pin No.	Signal Name	
Connector-type motors: 100 130	 20-18 aviation connector MIL-DTL-5015 series 3108E20-18S aviation connector	B	U	Blue
		I	V	Black
		F	W	Red
		G	PE	Yellow/Green
		C	Brake (+)	-
		E	Brake (-)	-

Table 3-9 Power cable connector of connector-type servo motors (motor side)

Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Pin Layout		
		Pin No.	Signal Name	Color
Connector-type motors: 180	 20-22 aviation connector MIL-DTL-5015 series 3108E20-22S aviation connector	A	U	Blue
		C	V	Black
		E	W	Red
		F	PE	Yellow/Green
		B	Brake (-)	-
		D	Brake (+)	



NOTE

- ◆ The flange size refers to the width of the mounting flange.
- ◆ Power cable colors are subject to the actual cables. Cable colors mentioned in this user guide all refer to Inovance cables.

4 Connecting to SV820N series servo drives

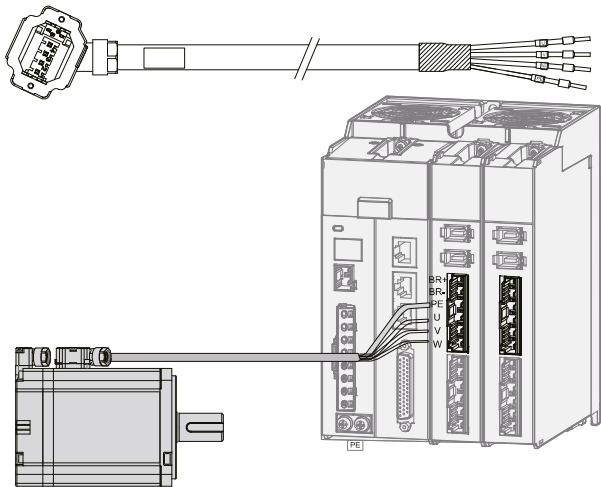
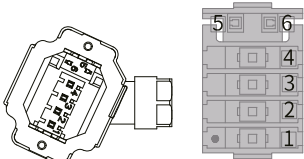
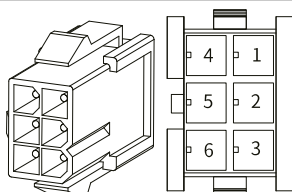


Figure 3-6 Connection between SV820N series servo drive and servo motor

Table 3-10 Power cable connectors of lead wire-type and terminal-type servo motors (motor side)

Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		Pin No.	Signal Name	Color
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	 SDC-06T (manufacturer: JONHON)	1	PE	Yellow/ Green
		2	W	Red
		3	V	Black
		4	U	White
		5	Brake +	Brown
		6	Brake -	Blue
Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	 Black 6-pin connector Recommendation: Plastic housing: MOLEX-50361736 Terminal: MOLEX-39000061	1	U	White
		2	V	Black
		4	W	Red
		5	PE	Yellow/ Green
		3	Brake +	Brown
		6	Brake -	Blue

5 Connecting to SV660 series servo drives

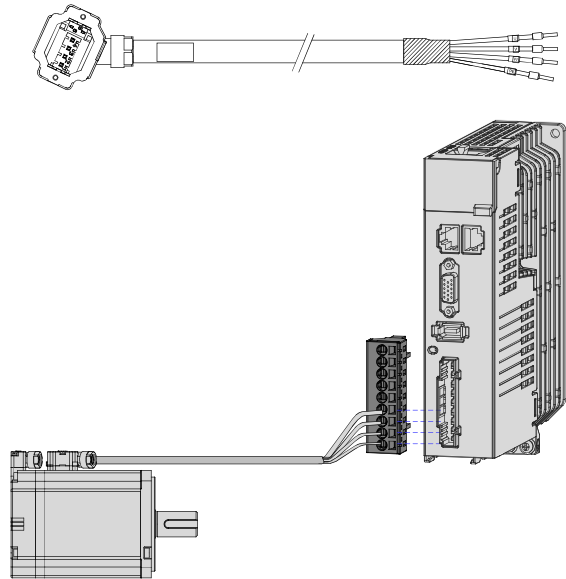
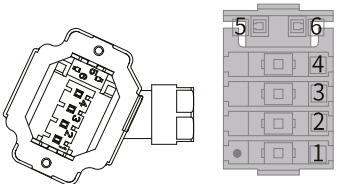


Figure 3-7 Connection between SV660 series servo drive and terminal-type servo motor

Table 3-11 Power cable connector of terminal-type servo motors (motor side)

Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		Pin No.	Signal Name	Color
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	 SDC-06T (manufacturer: JONHON)	1	PE	Yellow/ Green
		2	W	Red
		3	V	Black
		4	U	White
		5	Brake +	Brown
		6	Brake -	Blue



NOTE

- ◆ The flange size refers to the width of the mounting flange.
- ◆ Power cable colors are subject to the actual cables. Cable colors mentioned in this user guide all refer to Inovance cables.

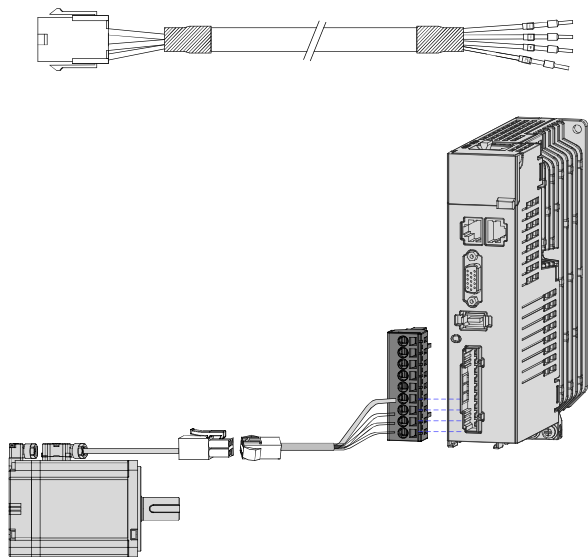


Figure 3-8 Connection between SV660 series servo drive and lead wire-type servo motor

Table 3-12 Power cable connector of lead wire-type servo motors (motor side)

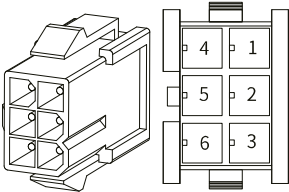
Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		Pin No.	Signal Name	Color
Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	 Black 6-pin connector Recommendation: Plastic housing: MOLEX-50361736 Terminal: MOLEX-39000061	1	U	White
		2	V	Black
		4	W	Red
		5	PE	Yellow/ Green
		3	Brake (polarity insensitive)	-
		6		

Table 3-13 Power cable connector of connector-type servo motors (motor side)

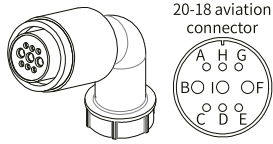
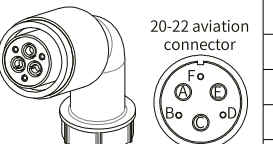
Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Pin Layout		
		Pin No.	Signal Name	Color
Connector-type motors: 100 130	 20-18 aviation connector MIL-DTL-5015 series 3108E20-18S aviation connector	B	U	Blue
		I	V	Black
		F	W	Red
		G	PE	Yellow/Green
		C	Brake (+)	-
		E	Brake (-)	-

Table 3-14 Power cable connector of connector-type servo motors (motor side)

Applicable Motor Flange Size ^[1]	Outline Drawing of the Connector	Terminal Layout		
		Pin No.	Signal Name	Color
Connector-type motors: 180	 20-22 aviation connector MIL-DTL-5015 series 3108E20-22S aviation connector	A	U	Blue
		C	V	Black
		E	W	Red
		F	PE	Yellow/Green
		B	Brake (polarity insensitive)	-
		D		



NOTE

- ◆ The flange size refers to the width of the mounting flange.
- ◆ Power cable colors are subject to the actual cables. Cable colors mentioned in this user guide all refer to Inovance cables.

3.4.2 Connecting the Absolute Encoder

1 Connecting to IS620 series servo drives

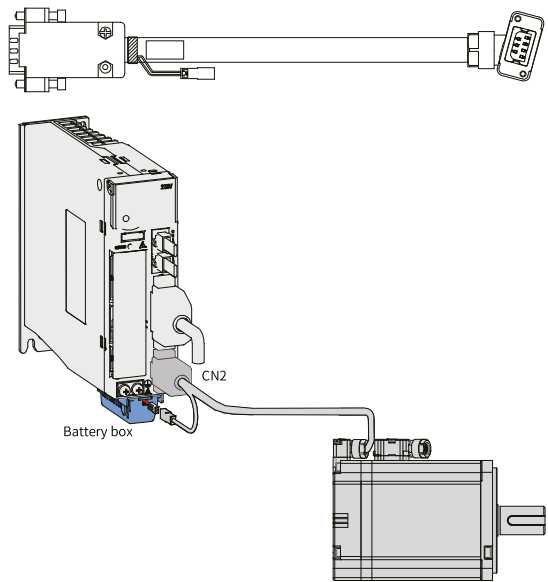


Figure 3-9 Connection between IS620 series servo drive and encoder

Table 3-15 Encoder cable connector of terminal-type servo motors

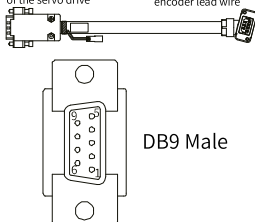
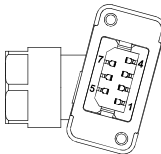
Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	Servo drive side	Connected to CN2 of the servo drive Connector of the encoder lead wire  DB9 Male	1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			7	+5V	Red	Twisted pair
			8	0V	Orange	
			Enclosure	PE	-	-
	Motor side	 SDC-07T (manufacture: JONHON)	1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			3	DC+	Brown	Twisted pair
			4	DC-	Black	
			5	+5V	Red	Twisted pair
			6	0V	Orange	
			7	PE	-	-

Table 3-16 Encoder cable connector for of lead wire-type servo motors

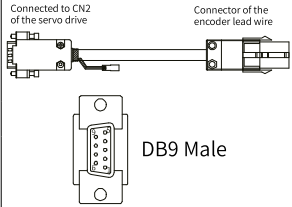
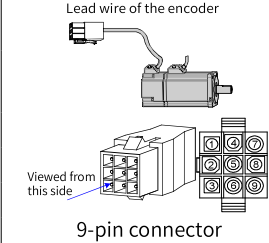
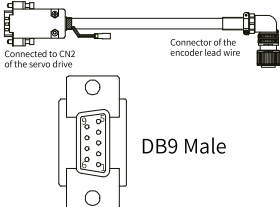
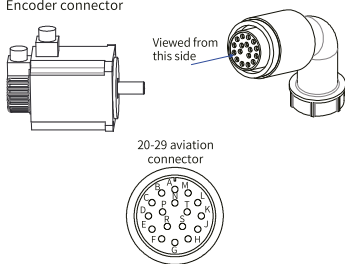
Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	Servo drive side		1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			7	+5V	Red	Twisted pair
			8	0V	Orange	
			Enclosure	PE	-	-
	Motor side		1	Battery (+)	Brown	-
			4	Battery (-)	Black	
			3	PS+	Blue	Twisted pair
			6	PS-	Purple	
			9	+5V	Red	-
			8	GND	Orange	
			7	Shield		

Table 3-17 Encoder cable connector of connector-type servo motors

Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Connector-type motors: 100 130 180	Servo drive side		1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			7	+5V	Red	Twisted pair
			8	0V	Orange	
			Enclosure	PE	-	-
	Motor side		A	PS+	Blue	Twisted pair
			B	PS-	Purple	
			E	DC+	Brown	Twisted pair
			F	DC-	Black	
			G	+5V	Red	Twisted pair
			H	GND	Orange	
			J	Shield	-	-

2 Connecting to IS810N-INT Series Servo Drives

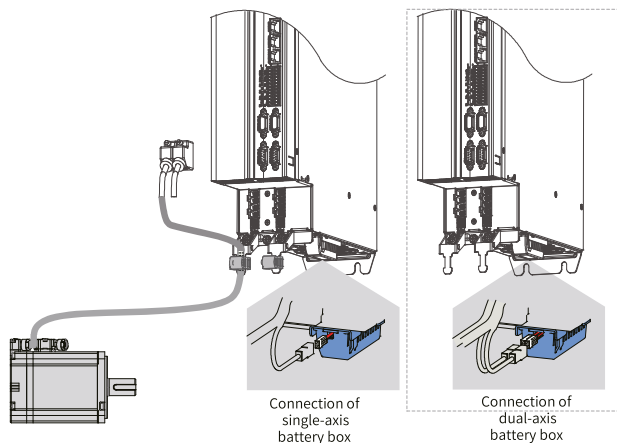


Figure 3-10 Connection between IS810-INT series servo drive and encoder

Table 3-18 Encoder cable connector of terminal-type servo motors

Applicable Motor Flange Size	Outline Drawing of the Connector	Terminal Pin Layout			
		Pin No.	Signal Name	Color	Type
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	Servo drive side	1	PS+	Blue	Twisted pair
		2	PS-	Purple	
		7	+5V	Red	Twisted pair
		8	0V	Orange	
	Motor side	Enclosure		PE	-
		1	PS+	Blue	Twisted pair
		2	PS-	Purple	
		3	DC+	Brown	Twisted pair
		4	DC-	Black	
		5	+5V	Red	Twisted pair
		6	0V	Orange	
		7	PE	-	-

Table 3-19 Encoder cable connector of lead wire-type servo motors

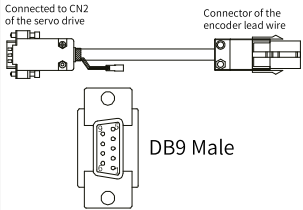
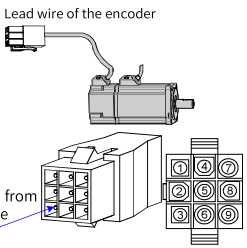
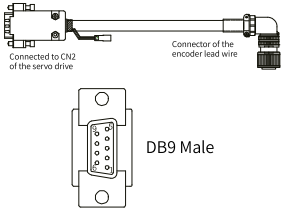
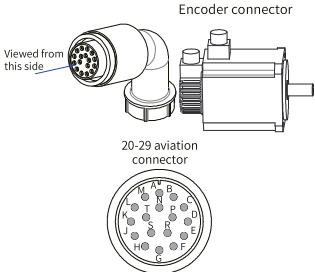
Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
	Servo drive side		1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			7	+5V	Red	Twisted pair
			8	0V	Orange	
			Enclosure	PE	-	-
	Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	Motor side				
			9-pin connector Recommendation: Plastic housing: AMP 172161-1; Terminal: AMP 770835-1			
			1	Battery (+)	Brown	-
			4	Battery (-)	Black	
			3	PS+	Blue	Twisted pair
			6	PS-	Purple	
			9	+5V	Red	-
			8	GND	Orange	
			7	Shield		

Table 3-20 Encoder cable connector of connector-type servo motors

Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Connector-type motors: 100 130 180	Servo drive side		1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			7	+5V	Red	Twisted pair
			8	0V	Orange	
			Enclosure	PE	-	-
	Motor side		A	PS+	Yellow	Twisted pair
			B	PS-	Blue	
			E	DC+	Brown	Twisted pair
			F	DC-	Black	
			G	+5V	Red	-
			H	GND	Orange	
			J	Shield	-	

3 Connecting to IS810P series servo drive

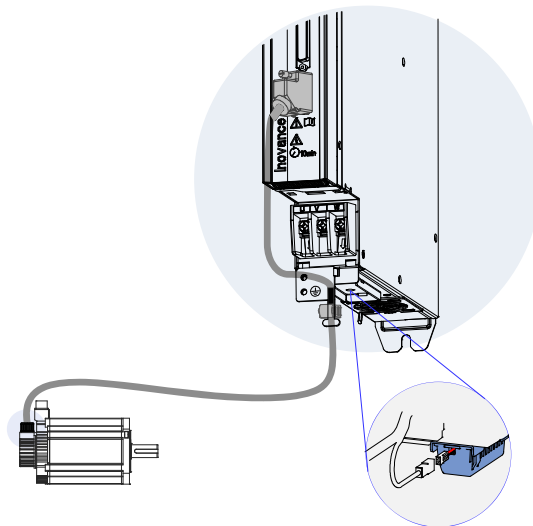


Figure 3-11 Connection between IS810P series servo drive and encoder

Table 3-21 Encoder cable connector of terminal-type servo motors

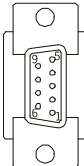
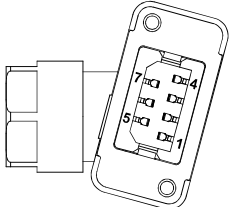
Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	Servo drive side	Connected to CN2 of the servo drive Connector of the encoder lead wire  DB9 Male	1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			7	+5V	Red	Twisted pair
			8	0V	Orange	
	Motor side	 SDC-07T	Enclosure		PE	-
			1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			3	DC+	Brown	Twisted pair
			4	DC-	Black	
			5	+5V	Red	Twisted pair
			6	0V	Orange	
			7	PE	-	-

Table 3-22 Encoder cable connector of lead wire-type servo motors

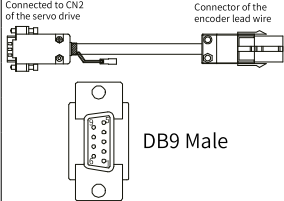
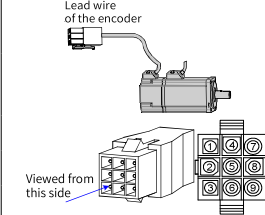
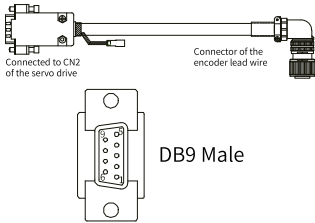
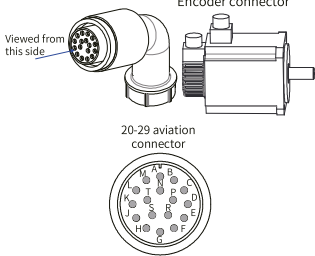
Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	Servo drive side	 DB9 Male	1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			7	+5V	Red	Twisted pair
			8	0V	Orange	
			Enclosure	PE	-	-
	Motor side	 9-pin connector Recommendation: Plastic housing: AMP 172161-1; Terminal: AMP 770835-1	1	Battery (+)	Brown	-
			4	Battery (-)	Black	
			3	PS+	Blue	Twisted pair
			6	PS-	Purple	
			9	+5V	Red	-
			8	GND	Orange	
			7	Shield		

Table 3-23 Encoder cable connector (MIL-DTL-5015 series 3108E20-29S aviation connector)

Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Connector-type motors: 100 130 180	Servo drive side	 DB9 Male	1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			7	+5V	Red	Twisted pair
			8	0V	Orange	
			Enclosure	PE	-	-
	Motor side	 20-29 aviation connector	A	PS+	Blue	Twisted pair
			B	PS-	Purple	
			E	DC+	Brown	Twisted pair
			F	DC-	Black	
			G	+5V	Red	-
			H	GND	Orange	
			J	Shield	-	

4 Connecting to SV820N series servo drives

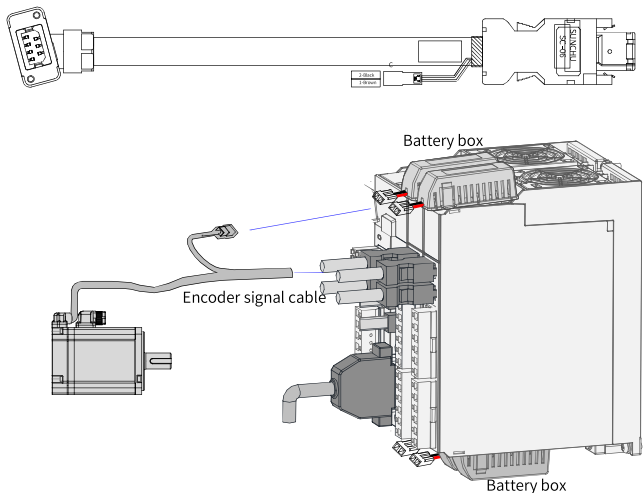
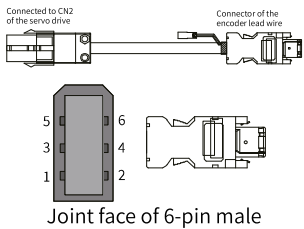
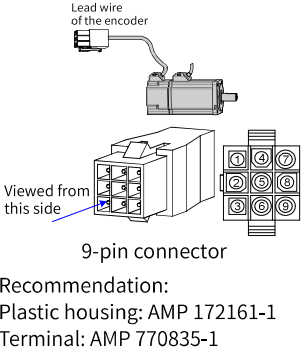


Figure 3-12 Connection between SV820N series servo drive and encoder

Table 3-24 Encoder cable connector of terminal-type servo motors

Applicable Motor Flange Size	Outline Drawing of the Connector	Terminal Pin Layout			
		Pin No.	Signal Name	Color	Type
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	Servo drive side Connected to CN2 of the servo drive Connector of the encoder lead wire Joint face of 6-pin male	1	+5V	Red	Twisted pair
		2	0 V	Orange	
		5	PS+	Blue	Twisted pair
		6	PS-	Purple	
		Enclosure	PE	-	-
	Motor side SDC-07T (manufacture: JONHON)	1	PS+	Blue	Twisted pair
		2	PS-	Purple	
		3	DC+	Brown	Twisted pair
		4	DC-	Black	
		5	+5V	Red	Twisted pair
		6	0V	Orange	
		7	PE	-	-

Table 3-25 Encoder cable connector of lead wire-type servo motors

Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	Servo drive side		1	+5V	Red	Twisted pair
			2	0 V	Orange	
			5	PS+	Blue	Twisted pair
			6	PS-	Purple	
			Enclosure	PE	-	-
	Motor side		1	Battery (+)	Brown	Twisted pair
			4	Battery (-)	Black	
			3	PS+	Blue	Twisted pair
			6	PS-	Purple	
			9	+5V	Red	Twisted pair
			8	GND	Orange	
			7	Shield		

5 Connecting to SV660 Series Servo Drives

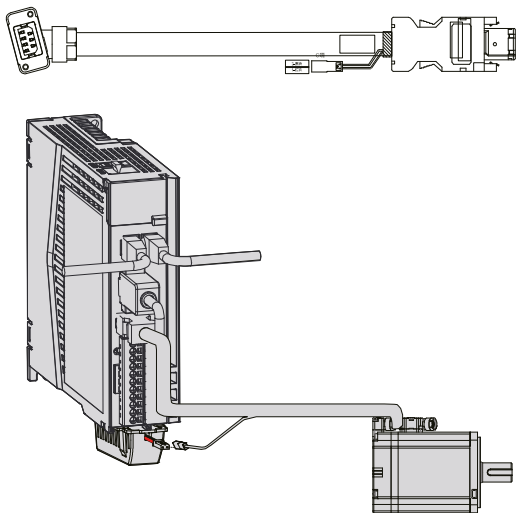


Figure 3-13 Connection between SV660 series servo drive and terminal-type motor encoder

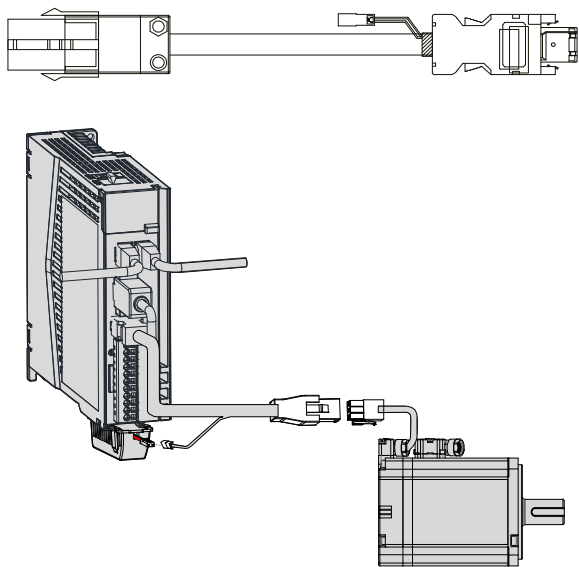


Figure 3-14 Connection between SV660 series servo drive and lead wire-type motor encoder

Table 3-26 Encoder cable connector of terminal-type servo motors

Applicable Motor Flange Size	Outline Drawing of the Connector	Terminal Pin Layout			
		Pin No.	Signal Name	Color	Type
Terminal-type motors: 40 (Z series) 60 (Z series) 80 (Z series)	Servo drive side Joint face of 6-pin male	1	+5V	Red	Twisted pair
		2	0V	Orange	
		5	PS+	Blue	Twisted pair
		6	PS-	Purple	
		Enclosure	PE	-	-
	Motor side SDC-07T (manufacture: JONHON)	1	PS+	Blue	Twisted pair
		2	PS-	Purple	
		3	DC+	Brown	Twisted pair
		4	DC-	Black	
		5	+5V	Red	Twisted pair
		6	0V	Orange	
		7	PE	-	-

Table 3-27 Encoder cable connector of lead wire-type servo motors

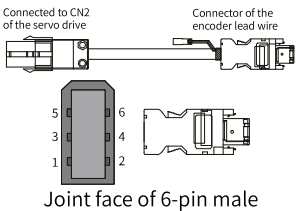
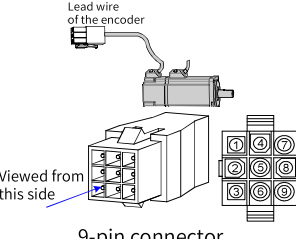
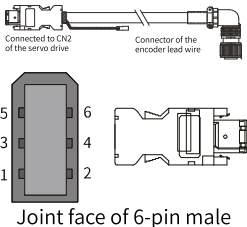
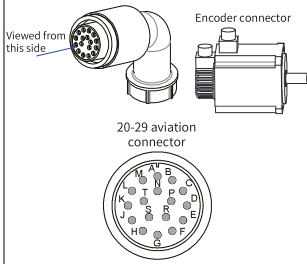
Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Lead wire-type motors: 40 (Z-S series) 60 (Z-S series) 80 (Z-S series)	Servo drive side		1	+5V	Red	Twisted pair
			2	0V	Orange	
			5	PS+	Blue	Twisted pair
			6	PS-	Purple	
			Enclosure	PE	-	-
	Motor side		1	Battery (+)	Brown	Twisted pair
			4	Battery (-)	Black	
			3	PS+	Blue	Twisted pair
			6	PS-	Purple	
			9	+5V	Red	Twisted pair
			8	GND	Orange	
			7	Shield		

Table 3-28 Encoder cable connector (MIL-DTL-5015 series 3108E20-29S aviation connector)

Applicable Motor Flange Size	Outline Drawing of the Connector		Terminal Pin Layout			
			Pin No.	Signal Name	Color	Type
Connector-type motors 100 130 180	Servo drive side		A	PS+	Yellow	Twisted pair
			B	PS-	Yellow/Black	
			E	Battery (+)	Blue	-
			F	Battery (-)	Blue/Black	
			G	+5V	Red	-
			H	GND	Black	
	Motor side		J	Shield		
			A	PS+	Yellow	Twisted pair
			B	PS-	Yellow/Black	
			E	Battery (+)	Blue	-
			F	Battery (-)	Blue/Black	
			G	+5V	Red	-
			H	GND	Black	
			J	Shield		

3.4.3 Requirements for connecting connectors

1 Power connector

 WARNING	
	Screw-down is allowed only when the rubber gasket of the plug is in place with both long edges kept flat.

Align pins 5 and 6 to corresponding holes and insert them into the holes. Do not insert pins 5 and 6 by force. After insertion, screw down with a tightening torque of $0.1 \text{ N} \cdot \text{m}$ to $0.15 \text{ N} \cdot \text{m}$.

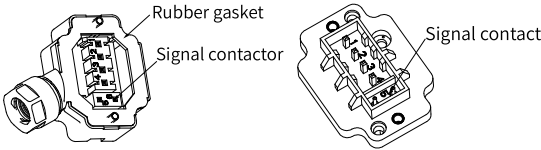
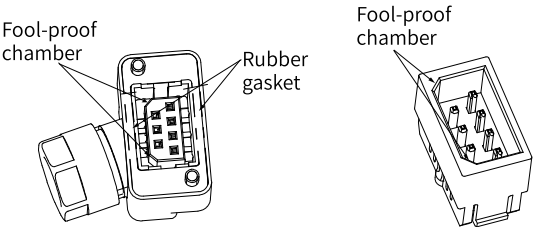


Figure 3-15 Power connector

2 Encoder connector

 WARNING	
	Screw-down is allowed only when the rubber gasket of the plug is in place with both long edges locked into the enclosure slot flatly.

Plugs and sockets are designed with fool-proof chamfers (as shown below). Align the fool-proof chamfer before insertion (forcible insertion is not allowed). After insertion, screw down the plug screws with a tightening torque of $0.1 \text{ N} \cdot \text{m}$ to $0.15 \text{ N} \cdot \text{m}$.



Note that the two long edges of the rubber gasket must be flatly locked into the slot of the enclosure.

Figure 3-16 Encoder connector



- ◆ The assembly direction of the plug insulator is subject to the actual direction.
- ◆ Do not energize an electrical connector connected loosely. Plug-in or Plug-out is not allowed when the power supply is switched on.
- ◆ The mating life of the electrical connector is 50 cycles. Ensure the joint face of the socket and plug is clean and free from greasy dirt in the whole service life. Handle with enough care during use to prevent injuries.
- ◆ Check whether the socket and plug are free from condensation and greasy dirt each time before mating.
- ◆ When the connector is idled with its socket and plug separated, take proper measures to prevent intrusion of dust and liquid.