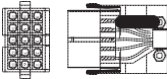
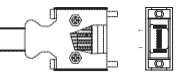
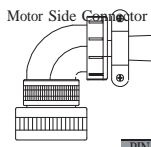



Options and Peripherals

Specifications for Options [Power Cable]

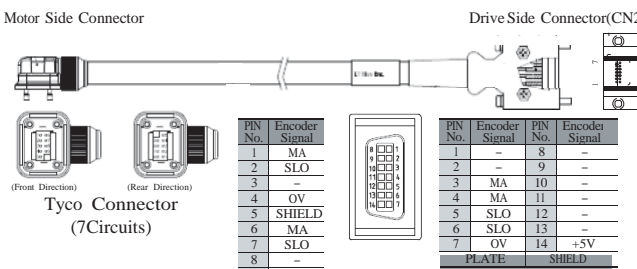
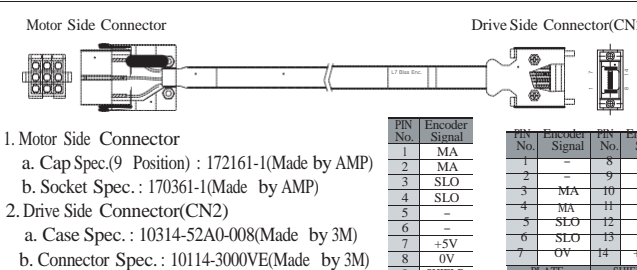
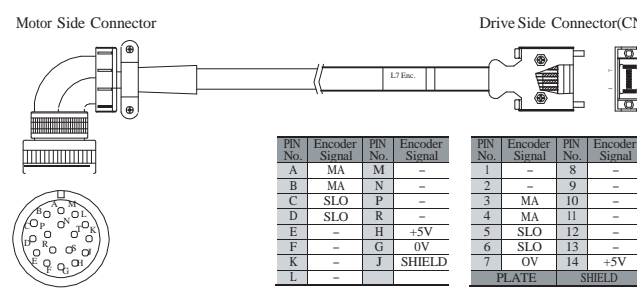
Type	Product Type	Model Name(Notel)	Applicable Motor	Specifications																																																																								
For Signal	Parallel Encoder Cable (Small Capacity)	APCS-E□□□AS	All Models of APM-SA APM-SB APM-SC APM-HB SERIES	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  <p>Motor Side Connector</p> </div> <div style="text-align: center;">  <p>Drive Side Connector(CN2)</p> </div> </div> <p style="text-align: center; font-size: small;">L7 Enc.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>A</td><td>9</td><td>V</td><td>1</td><td>W</td><td>8</td><td>Z</td></tr> <tr><td>2</td><td>Ā</td><td>10</td><td>V</td><td>2</td><td>W</td><td>9</td><td>Z</td></tr> <tr><td>3</td><td>B</td><td>11</td><td>W</td><td>3</td><td>V</td><td>10</td><td>B</td></tr> <tr><td>4</td><td>B̄</td><td>12</td><td>W</td><td>4</td><td>V</td><td>11</td><td>B</td></tr> <tr><td>5</td><td>Z</td><td>13</td><td>+5V</td><td>5</td><td>U</td><td>12</td><td>Ā</td></tr> <tr><td>6</td><td>Z̄</td><td>14</td><td>0V</td><td>6</td><td>U</td><td>13</td><td>A</td></tr> <tr><td>7</td><td>U</td><td>15</td><td>SHIELD</td><td>7</td><td>OV</td><td>14</td><td>+5V</td></tr> <tr><td>8</td><td>Ū</td><td></td><td></td><td></td><td>PLATE</td><td></td><td>SHIELD</td></tr> </tbody> </table> <p style="display: flex; justify-content: space-between; font-size: x-small;"> <Motor Side Connector> <Driver Side Connector> </p> <ol style="list-style-type: none"> 1. Motor Side Connector <ol style="list-style-type: none"> a. Cap Spec.(15 Position) : 172163-1(Made by AMP) b. Socket Spec. : 170361-1(Made by AMP) 2. Driver Side Connector(CN2) <ol style="list-style-type: none"> a. Case Spec. : 10314-52A0-008(Made by 3M) b. Connector Spec. : 10114-3000VE(Made by 3M) 3. Cable Spec. : 7P×0.2SQ or 7P×AWG24 	PIN No.	Encoder Signal	PIN No.	Encoder Signal	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	A	9	V	1	W	8	Z	2	Ā	10	V	2	W	9	Z	3	B	11	W	3	V	10	B	4	B̄	12	W	4	V	11	B	5	Z	13	+5V	5	U	12	Ā	6	Z̄	14	0V	6	U	13	A	7	U	15	SHIELD	7	OV	14	+5V	8	Ū				PLATE		SHIELD
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Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Cable Length(m)	3	5	10	20
Robotic Cable(F)	F03	F05	F10	F20
General Cable(N)	N03	N05	N10	N20

Options and Peripherals

Specifications for Options [Serial Encoder Cable]

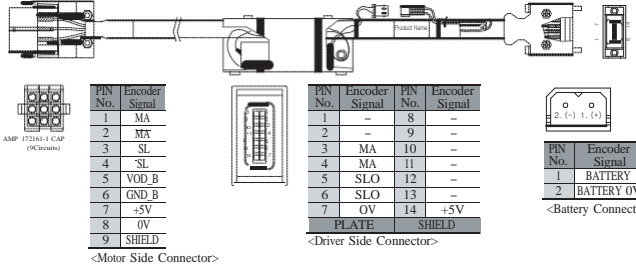
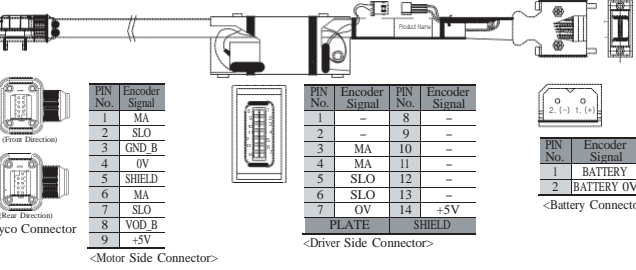
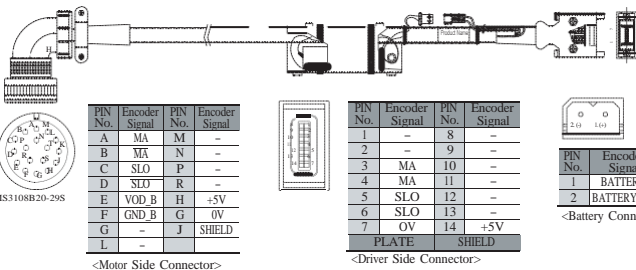
Type	Product Type	Model Name ^(Note1)	Applicable Motor	Specifications																																																																								
For Signal	Encoder Cable for Flat Motor (Small Capacity)	APCS- E□□□ES -□ Note)Model name for direction of Connector Front : APCS-E□□□ES Rear : APCS-E□□□ES-R	All Models of APM-FB APM-FC SERIES	 <p>Motor Side Connector</p> <p>Drive Side Connector(CN2)</p> <p>Tyco Connector (7Circuits)</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>MA</td><td>8</td><td>-</td></tr> <tr><td>2</td><td>SLO</td><td>9</td><td>-</td></tr> <tr><td>3</td><td>-</td><td>10</td><td>-</td></tr> <tr><td>4</td><td>OV</td><td>11</td><td>-</td></tr> <tr><td>5</td><td>SHIELD</td><td>12</td><td>-</td></tr> <tr><td>6</td><td>MA</td><td>13</td><td>-</td></tr> <tr><td>7</td><td>SLO</td><td>14</td><td>+5V</td></tr> <tr><td>8</td><td>-</td><td>PLATE</td><td>SHIELD</td></tr> <tr><td>9</td><td>+5V</td><td>SHIELD</td><td>-</td></tr> </tbody> </table> <p>1. Motor Side Connector a. Cap Spec. : 2201825-1(Made by Tyco) b. Socket Spec. : 2174065-4(Made by Tyco)</p> <p>2. Drive Side Connector(CN2) a. Case Spec. : 10314-52A0-008(Made by 3M) b. Connector Spec. : 10114-3000VE(Made by 3M)</p> <p>3. Cable Spec. : 4P×0.2SQ or 4P×24AWG</p>	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	MA	8	-	2	SLO	9	-	3	-	10	-	4	OV	11	-	5	SHIELD	12	-	6	MA	13	-	7	SLO	14	+5V	8	-	PLATE	SHIELD	9	+5V	SHIELD	-																																
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9	+5V	SHIELD	-																																																																									
For Signal	Encoder Cable for Serial Type (Small Capacity)	APCS- E□□□CS	All Models of APM-SA APM-SB APM-SC SERIES	 <p>Motor Side Connector</p> <p>Drive Side Connector(CN2)</p> <p>AMP Connector (9 Position)</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>MA</td><td>8</td><td>-</td></tr> <tr><td>2</td><td>MA</td><td>9</td><td>-</td></tr> <tr><td>3</td><td>SLO</td><td>10</td><td>-</td></tr> <tr><td>4</td><td>SLO</td><td>11</td><td>-</td></tr> <tr><td>5</td><td>-</td><td>12</td><td>-</td></tr> <tr><td>6</td><td>-</td><td>13</td><td>-</td></tr> <tr><td>7</td><td>+5V</td><td>14</td><td>+5V</td></tr> <tr><td>8</td><td>OV</td><td>PLATE</td><td>SHIELD</td></tr> <tr><td>9</td><td>SHIELD</td><td>SHIELD</td><td>-</td></tr> </tbody> </table> <p>1. Motor Side Connector a. Cap Spec.(9 Position) : 172161-1(Made by AMP) b. Socket Spec. : 170361-1(Made by AMP)</p> <p>2. Drive Side Connector(CN2) a. Case Spec. : 10314-52A0-008(Made by 3M) b. Connector Spec. : 10114-3000VE(Made by 3M)</p> <p>3. Cable Spec. : 3P×0.2SQ or 3P×24AWG</p>	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	MA	8	-	2	MA	9	-	3	SLO	10	-	4	SLO	11	-	5	-	12	-	6	-	13	-	7	+5V	14	+5V	8	OV	PLATE	SHIELD	9	SHIELD	SHIELD	-																																
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For Signal	Encoder Cable for Serial Type (Middle Capacity)	APCS- E□□□DS	All Models of APM-SE APM-SF APM-SG APM-LF APM-LG APM-FE APM-FF APM-FG SERIES	 <p>Motor Side Connector</p> <p>Drive Side Connector(CN2)</p> <p>MS Connector (Military Standard)</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>A</td><td>MA</td><td>M</td><td>-</td></tr> <tr><td>B</td><td>MA</td><td>N</td><td>-</td></tr> <tr><td>C</td><td>SLO</td><td>P</td><td>-</td></tr> <tr><td>D</td><td>SLO</td><td>R</td><td>-</td></tr> <tr><td>E</td><td>-</td><td>H</td><td>+5V</td></tr> <tr><td>F</td><td>-</td><td>G</td><td>OV</td></tr> <tr><td>K</td><td>-</td><td>J</td><td>SHIELD</td></tr> <tr><td>L</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>-</td><td>8</td><td>-</td></tr> <tr><td>2</td><td>-</td><td>9</td><td>-</td></tr> <tr><td>3</td><td>MA</td><td>10</td><td>-</td></tr> <tr><td>4</td><td>MA</td><td>11</td><td>-</td></tr> <tr><td>5</td><td>SLO</td><td>12</td><td>-</td></tr> <tr><td>6</td><td>SLO</td><td>13</td><td>-</td></tr> <tr><td>7</td><td>OV</td><td>14</td><td>+5V</td></tr> <tr><td>PLATE</td><td>SHIELD</td><td>SHIELD</td><td>-</td></tr> </tbody> </table> <p>1. Motor Side Connector(MS : Military Standard) a. Plug Spec. : MS3108B20-29S</p> <p>2. Drive Side Connector(CN2) a. Case Spec. : 10314-52A0-008(Made by 3M) b. Connector Spec. : 10114-3000VE(Made by 3M)</p> <p>3. Cable Spec. : 4P×0.2SQ or 4P×24AWG</p>	PIN No.	Encoder Signal	PIN No.	Encoder Signal	A	MA	M	-	B	MA	N	-	C	SLO	P	-	D	SLO	R	-	E	-	H	+5V	F	-	G	OV	K	-	J	SHIELD	L	-	-	-	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	-	8	-	2	-	9	-	3	MA	10	-	4	MA	11	-	5	SLO	12	-	6	SLO	13	-	7	OV	14	+5V	PLATE	SHIELD	SHIELD	-
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Cable Length(m)	3	5	10	20
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Options and Peripherals

Specifications for Options [Serial Encoder Cable]

Type	Product Type	Model Name ^(Note1)	Applicable Motor	Specifications																																																																																										
For Signal	Encoder Cable for Multi-turn Serial Type (AMP Type-Small Capacity)	APCS-E□□□CS1	All Models of APM-SA APM-SB APM-SC SERIES	 <p>AMP 172161-1 CAP (9Circuit)</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>MA</td><td>8</td><td>-</td></tr> <tr><td>2</td><td>MT</td><td>9</td><td>-</td></tr> <tr><td>3</td><td>SL</td><td>10</td><td>MA</td></tr> <tr><td>4</td><td>SL</td><td>11</td><td>MA</td></tr> <tr><td>5</td><td>VOD_B</td><td>12</td><td>SLO</td></tr> <tr><td>6</td><td>GND_B</td><td>13</td><td>SLO</td></tr> <tr><td>7</td><td>+5V</td><td>14</td><td>OV</td></tr> <tr><td>8</td><td>OV</td><td></td><td>PLATE</td></tr> <tr><td>9</td><td>SHIELD</td><td></td><td>SHIELD</td></tr> </tbody> </table> <p><Motor Side Connector></p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>-</td><td>8</td><td>-</td></tr> <tr><td>2</td><td>-</td><td>9</td><td>-</td></tr> <tr><td>3</td><td>MA</td><td>10</td><td>-</td></tr> <tr><td>4</td><td>MA</td><td>11</td><td>-</td></tr> <tr><td>5</td><td>SLO</td><td>12</td><td>-</td></tr> <tr><td>6</td><td>SLO</td><td>13</td><td>-</td></tr> <tr><td>7</td><td>OV</td><td>14</td><td>+5V</td></tr> <tr><td></td><td></td><td></td><td>PLATE</td></tr> <tr><td></td><td></td><td></td><td>SHIELD</td></tr> </tbody> </table> <p><Driver Side Connector></p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>BATTERY</td></tr> <tr><td>2</td><td>BATTERY OV</td></tr> </tbody> </table> <p><Battery Connector></p> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Cap Spec.(9 Position) : 172161-1(Made by AMP) Socket Spec. : 170361-1(Made by AMP) Drive Side Connector(CN2) <ol style="list-style-type: none"> Case Spec. : 10314-52A0-008(Made by 3M) Connector Spec. : 10114-3000VE(Made by 3M) Cable Spec. : 4P×0.2SQ or 4P×24AWG Battery Connector Spec. : 5267-02A(Made by MOLEX) 	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	MA	8	-	2	MT	9	-	3	SL	10	MA	4	SL	11	MA	5	VOD_B	12	SLO	6	GND_B	13	SLO	7	+5V	14	OV	8	OV		PLATE	9	SHIELD		SHIELD	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	-	8	-	2	-	9	-	3	MA	10	-	4	MA	11	-	5	SLO	12	-	6	SLO	13	-	7	OV	14	+5V				PLATE				SHIELD	PIN No.	Encoder Signal	1	BATTERY	2	BATTERY OV				
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