

Optional Harness

Optional Harness Adaptation List

Series	Model	Input Harness	Output Harness	Signal Harness
CUS-MP	CUS350MP-1000	HA-2-IN HA-7-IN	+ : HA-22-OU, - : HA-23-OU	HA-12-C
EDC	EDCL1500 EDCM3000	—	—	HA-15-C HA-16-C HA-17-C HA-18-C
EVS	EVS300/R	—	—	HA-1-C
	EVS600/R	—	—	HA-6-C
EZA	EZA2500 EZA11K	—	—	EZA-CNHA-1
GXE	GXE600	—	—	HA-9-C
HWS-A	HWS50A/R~150A/R	—	—	HA-1-C
HWS-G	HWS3000G HWS3000GT HWS3000GT4	—	—	HA-15-C HA-16-C HA-17-C HA-18-C
HWS	HWS300 HWS600	—	—	HWS-HA-02 HWS-HA-KIT01 (*) (* Housing, Terminal Pin)
	HWS1000 HWS1500 HWS1800T	—	—	HWS-HA-01 HWS-HA-02 HWS-HA-KIT01 (*) (* Housing, Terminal Pin)
HWS-P	HWS300P HWS600P	—	—	HA-3-C
SWS-L HWS-L/BAT	SWS600L SWS1000L HWS600L/BAT HWS1000L/BAT	—	—	HA-4-C HA-5-C
RWS-B	RWS300B/R	—	—	HA-2-C
	RWS600B RWS1000B RWS1500B	—	—	HA-6-C
VS-E	VS50E	HA-2-IN HA-7-IN	HA-3-OU	—
	VS75E	HA-2-IN HA-7-IN	HA-4-OU	—
	VS100E	HA-2-IN HA-7-IN	HA-5-OU	—
	VS150E	HA-2-IN HA-7-IN	+ : HA-6-OU, - : HA-7-OU	—
ZBM	ZBM20	HA-4-OU		HA-13-C
ZBM-AC	ZBM-AC162	HA-13-IN	—	HA-14-C
ZWP	ZWP300-650	HA-7-IN	HA-11-OU	—

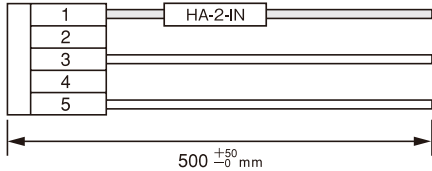
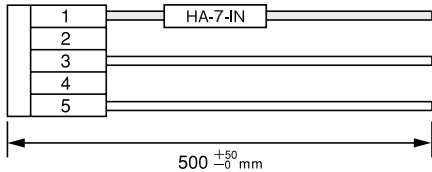
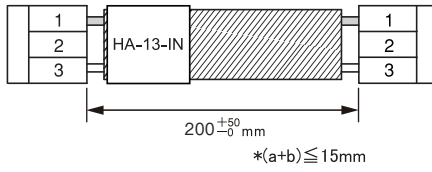
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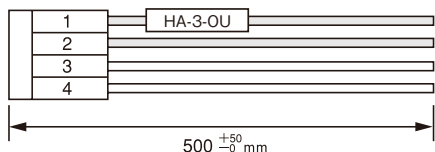
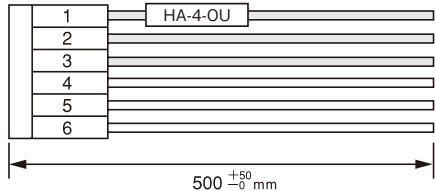
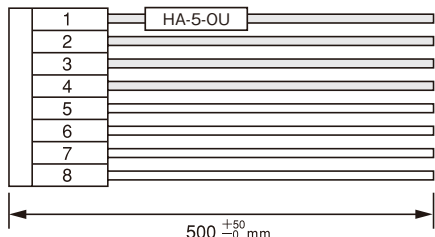
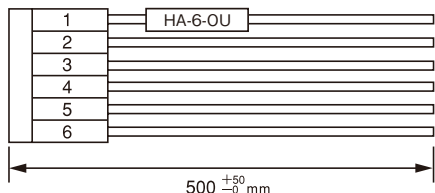
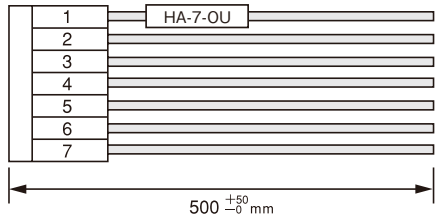
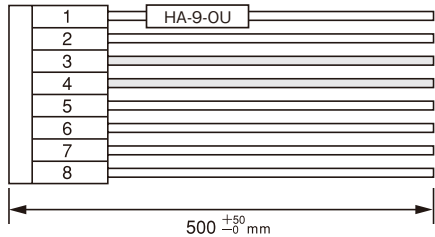
Series	Model	Input Harness	Output Harness	Signal Harness
ZWQ	ZWQ80	HA-2-IN HA-7-IN	V1,V2,V3:HA-9-OU V4:HA-10-OU	—
	ZWQ130	HA-2-IN HA-7-IN	V1:HA-11-OU V2,V3:HA-12-OU V4:HA-13-OU	—
ZWS-B	ZWS10B ZWS15B	HA-2-IN HA-7-IN	HA-16-OU	—
	ZWS30B ZWS50B	HA-2-IN HA-7-IN	HA-3-OU	—
	ZWS75B	HA-2-IN HA-7-IN	HA-4-OU	—
	ZWS100B	HA-2-IN HA-7-IN	HA-5-OU	—
	ZWS150B	HA-2-IN HA-7-IN	+ :HA-6-OU , — :HA-7-OU	—
ZWS-BAF	ZWS50BAF	HA-2-IN HA-7-IN	HA-3-OU	—
	ZWS75BAF	HA-2-IN HA-7-IN	HA-4-OU	—
	ZWS100BAF	HA-2-IN HA-7-IN	HA-5-OU	HA-1-C (* For /R option model only)
	ZWS150BAF	HA-2-IN HA-7-IN	+ :HA-6-OU , — :HA-7-OU	
	ZWS300BAF	HA-2-IN HA-7-IN	HA-5-OU	
ZWS-BP	ZWS150BP	HA-2-IN HA-7-IN	HA-4-OU	HA-1-C (* For /R option model only)
	ZWS240BP	HA-2-IN HA-7-IN	HA-5-OU	
ZWS-C	ZWS10C	LN:HA-11-IN FG:HA-9-IN	HA-16-OU	—
	ZWS15C			
	ZWS30C		HA-3-OU	
	ZWS50C			
	/P option	HA-9-IN	—	—
ZWS-RC	ZWS240RC	—	HA-5-OU	—
	ZWS240RC/R	—	HA-5-OU	HA-1-C
	ZWS300RC	HA-2-IN HA-7-IN	HA-5-OU	—
	ZWS300RC/R			HA-1-C
	ZWS300RC/BM	HA-2-IN HA-7-IN CN2:HA-13-IN		—
	ZWS300RC/RBM			HA-1-C

Optional Harness

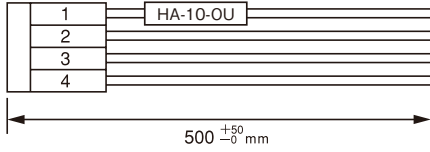
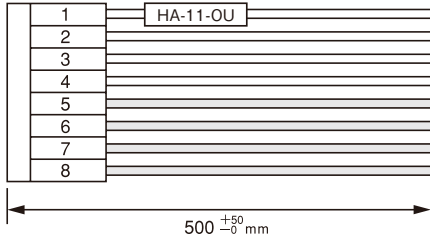
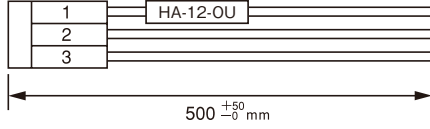
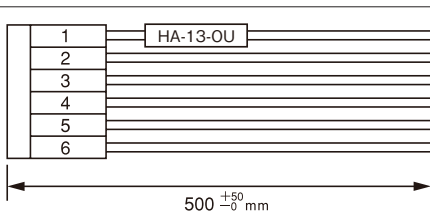
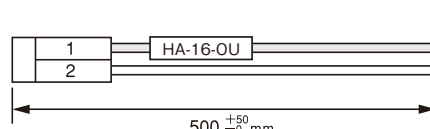
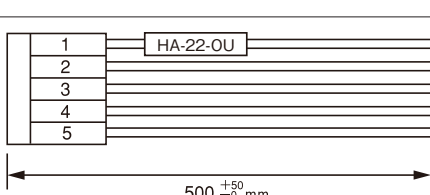
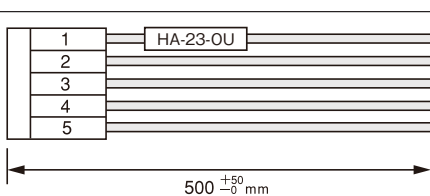
Input Harness

Model Housing Terminal Pin	HA-2-IN VHR-5N SVH-21T-P1.1 (J.S.T)		<table border="1"> <thead> <tr> <th>Pin No.</th><th>Cable</th><th>AWG</th><th>Color</th></tr> </thead> <tbody> <tr> <td>1</td><td>UL1015</td><td>18</td><td>Black</td></tr> <tr> <td>2</td><td></td><td>—</td><td></td></tr> <tr> <td>3</td><td>UL1015</td><td>18</td><td>White</td></tr> <tr> <td>4</td><td></td><td>—</td><td></td></tr> <tr> <td>5</td><td>UL1015</td><td>18</td><td>Green</td></tr> </tbody> </table>	Pin No.	Cable	AWG	Color	1	UL1015	18	Black	2		—		3	UL1015	18	White	4		—		5	UL1015	18	Green
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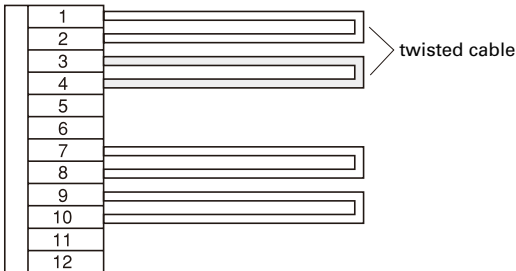
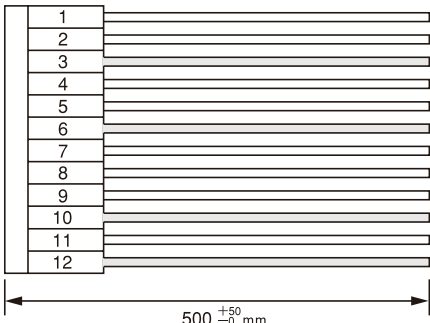
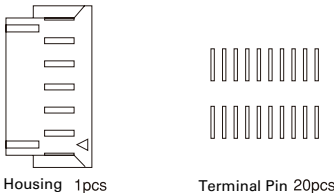
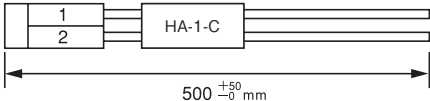
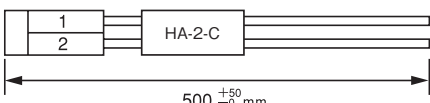
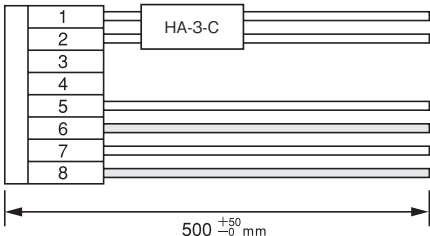
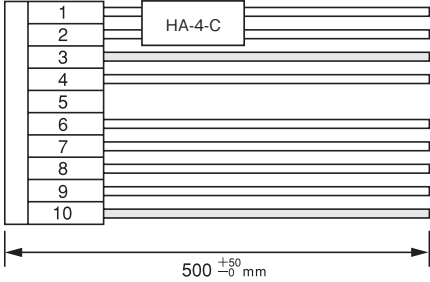
■ Output Harness

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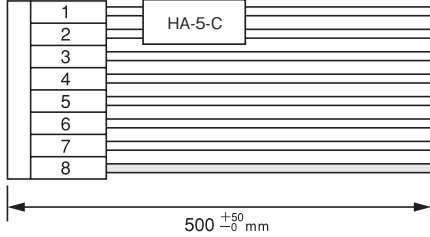
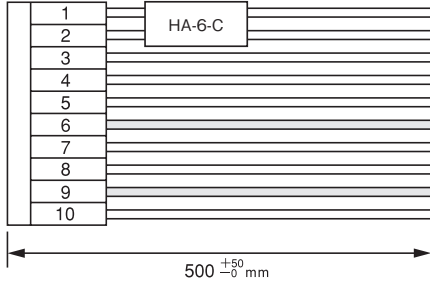
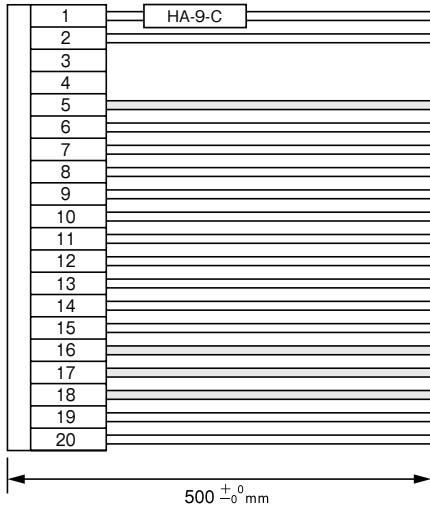
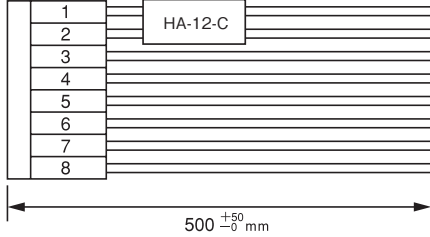
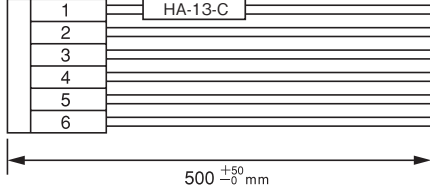
Output Harness

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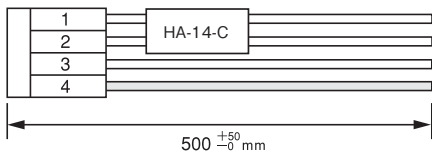
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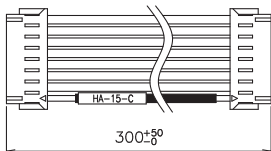
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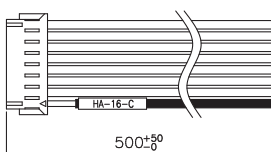
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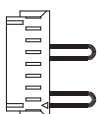
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14	UL10368	22	Red																																																																																				
15	UL1007	24	Yellow																																																																																				
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Model Housing Terminal Pin	HA-12-C PHDR-08VS (J.S.T) SPHD-001T-P0.5 (J.S.T)		<table border="1"> <thead> <tr> <th>Pin No.</th><th>Cable</th><th>AWG</th><th>Color</th></tr> </thead> <tbody> <tr><td>1</td><td>UL1007</td><td>24</td><td>Gray</td></tr> <tr><td>2</td><td>UL1007</td><td>24</td><td>Purple</td></tr> <tr><td>3</td><td>UL1007</td><td>24</td><td>Gray</td></tr> <tr><td>4</td><td>UL1007</td><td>24</td><td>Yellow</td></tr> <tr><td>5</td><td>UL1007</td><td>24</td><td>Blue</td></tr> <tr><td>6</td><td>UL1007</td><td>24</td><td>Orange</td></tr> <tr><td>7</td><td>UL1007</td><td>24</td><td>Blue</td></tr> <tr><td>8</td><td>UL1007</td><td>24</td><td>Orange</td></tr> </tbody> </table>	Pin No.	Cable	AWG	Color	1	UL1007	24	Gray	2	UL1007	24	Purple	3	UL1007	24	Gray	4	UL1007	24	Yellow	5	UL1007	24	Blue	6	UL1007	24	Orange	7	UL1007	24	Blue	8	UL1007	24	Orange																																																
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Model Housing Terminal Pin	HA-13-C XHP-6 (J.S.T) SXH-001T-P0.6 (J.S.T)		<table border="1"> <thead> <tr> <th>Pin No.</th><th>Cable</th><th>AWG</th><th>Color</th></tr> </thead> <tbody> <tr><td>1</td><td>UL1007</td><td>24</td><td>Blue</td></tr> <tr><td>2</td><td>UL1007</td><td>24</td><td>Brown</td></tr> <tr><td>3</td><td>UL1007</td><td>24</td><td>Gray</td></tr> <tr><td>4</td><td>UL1007</td><td>24</td><td>Yellow</td></tr> <tr><td>5</td><td>UL1007</td><td>24</td><td>White</td></tr> <tr><td>6</td><td>UL1007</td><td>24</td><td>Orange</td></tr> </tbody> </table>	Pin No.	Cable	AWG	Color	1	UL1007	24	Blue	2	UL1007	24	Brown	3	UL1007	24	Gray	4	UL1007	24	Yellow	5	UL1007	24	White	6	UL1007	24	Orange																																																								
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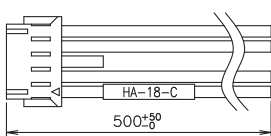
Signal Harness

Model	HA-14-C																						
Housing	XHP-4 (J.S.T)		<table><tr><th>Pin No.</th><th>Cable</th><th>AWG</th><th>Color</th></tr><tr><td>1</td><td>UL1007</td><td>22</td><td>Yellow</td></tr><tr><td>2</td><td>UL1007</td><td>22</td><td>Gray</td></tr><tr><td>3</td><td>UL1007</td><td>22</td><td>Red</td></tr><tr><td>4</td><td>UL1007</td><td>22</td><td>Black</td></tr></table>	Pin No.	Cable	AWG	Color	1	UL1007	22	Yellow	2	UL1007	22	Gray	3	UL1007	22	Red	4	UL1007	22	Black
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Terminal Pin	SXH-001T-P0.6 (J.S.T)																						

Model	HA-15-C																																																																																																								
Housing	PHDR-16VS (J.S.T)		<table><tr><th>Pin No.</th><th>Pin name</th><th>Function</th><th>Cable</th><th>AWG</th><th>Color</th></tr><tr><td>1</td><td>-D</td><td>Differential data - for RS-485</td><td>HK/20276XL LF</td><td>24</td><td>Blue</td></tr><tr><td>2</td><td>+D</td><td>Differential data + for RS-485</td><td>HK/20276XL LF</td><td>24</td><td>White</td></tr><tr><td>3</td><td>-DR</td><td>Termination resistor terminal for RS-485</td><td>-</td><td></td><td></td></tr><tr><td>4</td><td>DG</td><td>Ground for -D,+D,A/I,HL</td><td>UL1007</td><td>24</td><td>Black</td></tr><tr><td>5</td><td>A/I or A/O</td><td>Address assignment input terminal</td><td>UL1007</td><td>24</td><td>Green</td></tr><tr><td>6</td><td>DG</td><td>Ground for -D,+D,A/I,HL</td><td>UL1007</td><td>24</td><td>Black</td></tr><tr><td>7</td><td>HL</td><td>Redundant operation invalid terminal</td><td>UL1007</td><td>24</td><td>Brown</td></tr><tr><td>8</td><td>PWR</td><td>External power supply terminal for communication</td><td>UL1007</td><td>24</td><td>Blue</td></tr><tr><td>9</td><td>-R</td><td>Remote ON/OFF control terminal</td><td>UL1007</td><td>24</td><td>Black</td></tr><tr><td>10</td><td>+R</td><td>Remote ON/OFF control terminal</td><td>UL1007</td><td>24</td><td>Red</td></tr><tr><td>11</td><td>AG</td><td>Ground for CB,VB,CC,CV</td><td>UL1007</td><td>24</td><td>Black</td></tr><tr><td>12</td><td>AG</td><td>Ground for CB,VB,CC,CV</td><td>UL1007</td><td>24</td><td>Black</td></tr><tr><td>13</td><td>CB</td><td>Current balance terminal</td><td>UL1007</td><td>24</td><td>Orange</td></tr><tr><td>14</td><td>VB</td><td>Voltage balance terminal</td><td>UL1007</td><td>24</td><td>Green</td></tr><tr><td>15</td><td>CC</td><td>Output current external control terminal</td><td>UL1007</td><td>24</td><td>Blue</td></tr><tr><td>16</td><td>CV</td><td>Output voltage external control terminal</td><td>UL1007</td><td>24</td><td>Purple</td></tr></table>	Pin No.	Pin name	Function	Cable	AWG	Color	1	-D	Differential data - for RS-485	HK/20276XL LF	24	Blue	2	+D	Differential data + for RS-485	HK/20276XL LF	24	White	3	-DR	Termination resistor terminal for RS-485	-			4	DG	Ground for -D,+D,A/I,HL	UL1007	24	Black	5	A/I or A/O	Address assignment input terminal	UL1007	24	Green	6	DG	Ground for -D,+D,A/I,HL	UL1007	24	Black	7	HL	Redundant operation invalid terminal	UL1007	24	Brown	8	PWR	External power supply terminal for communication	UL1007	24	Blue	9	-R	Remote ON/OFF control terminal	UL1007	24	Black	10	+R	Remote ON/OFF control terminal	UL1007	24	Red	11	AG	Ground for CB,VB,CC,CV	UL1007	24	Black	12	AG	Ground for CB,VB,CC,CV	UL1007	24	Black	13	CB	Current balance terminal	UL1007	24	Orange	14	VB	Voltage balance terminal	UL1007	24	Green	15	CC	Output current external control terminal	UL1007	24	Blue	16	CV	Output voltage external control terminal	UL1007	24	Purple
Pin No.	Pin name	Function	Cable	AWG	Color																																																																																																				
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Terminal Pin	SPHD-002T-P0.5 (J.S.T)	Housing for CN41 or CN42 Both side housing																																																																																																							

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Terminal Pin	SPHD-002T-P0.5 (J.S.T)	Housing for CN41 or CN42 Single side housing																																																																																																							

Model	HA-17-C																				
Housing	PHDR-16VS (J.S.T)		<table><tr><th>Pin No.</th><th>Pin name</th><th>Function</th><th>Cable</th><th>AWG</th><th>Color</th></tr><tr><td>2,3</td><td>+D & -DR</td><td>Differential data - for RS-485 & Termination resistor terminal for RS-485</td><td>UL1007</td><td>24</td><td>Yellow</td></tr><tr><td>9,12</td><td>-R & AG</td><td>Remote ON/OFF control terminal & Ground terminal</td><td>UL1007</td><td>24</td><td>Black</td></tr></table>	Pin No.	Pin name	Function	Cable	AWG	Color	2,3	+D & -DR	Differential data - for RS-485 & Termination resistor terminal for RS-485	UL1007	24	Yellow	9,12	-R & AG	Remote ON/OFF control terminal & Ground terminal	UL1007	24	Black
Pin No.	Pin name	Function	Cable	AWG	Color																
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Terminal Pin	SPHD-002T-P0.5 (J.S.T)	Housing for CN41																			

Model	HA-18-C																																																														
Housing	PHDR-16VS (J.S.T)		<table><tr><th>Pin No.</th><th>Pin name</th><th>Function</th><th>Cable</th><th>AWG</th><th>Color</th></tr><tr><td>1</td><td>AUX</td><td>+ output terminal of auxiliary power output</td><td>UL1007</td><td>24</td><td>Red</td></tr><tr><td>2</td><td>AUX</td><td>+ output terminal of auxiliary power output</td><td>UL1007</td><td>24</td><td>Red</td></tr><tr><td>3</td><td>GND</td><td>- output terminal of auxiliary power output</td><td>UL1007</td><td>24</td><td>Black</td></tr><tr><td>4</td><td>GND</td><td>- output terminal of auxiliary power output</td><td>UL1007</td><td>24</td><td>Black</td></tr><tr><td>5,6</td><td>DG & L/E</td><td>Ground for L/E,ACF,CPF,VPF & Leader machine setting terminal for Leader/Follower operation</td><td>UL1007</td><td>24</td><td>Yellow</td></tr><tr><td>7</td><td>DG</td><td>Ground for L/E,ACF,CPF,VPF</td><td>UL1007</td><td>24</td><td>White</td></tr><tr><td>8</td><td>ACF</td><td>Input voltage shortage alarm</td><td>UL1007</td><td>24</td><td>Green</td></tr><tr><td>9</td><td>CPF</td><td>Constant current output mode current shortage alarm</td><td>UL1007</td><td>24</td><td>Blue</td></tr><tr><td>10</td><td>VPF</td><td>Constant voltage output mode voltage shortage alarm</td><td>UL1007</td><td>24</td><td>Purple</td></tr></table>	Pin No.	Pin name	Function	Cable	AWG	Color	1	AUX	+ output terminal of auxiliary power output	UL1007	24	Red	2	AUX	+ output terminal of auxiliary power output	UL1007	24	Red	3	GND	- output terminal of auxiliary power output	UL1007	24	Black	4	GND	- output terminal of auxiliary power output	UL1007	24	Black	5,6	DG & L/E	Ground for L/E,ACF,CPF,VPF & Leader machine setting terminal for Leader/Follower operation	UL1007	24	Yellow	7	DG	Ground for L/E,ACF,CPF,VPF	UL1007	24	White	8	ACF	Input voltage shortage alarm	UL1007	24	Green	9	CPF	Constant current output mode current shortage alarm	UL1007	24	Blue	10	VPF	Constant voltage output mode voltage shortage alarm	UL1007	24	Purple
Pin No.	Pin name	Function	Cable	AWG	Color																																																										
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10	VPF	Constant voltage output mode voltage shortage alarm	UL1007	24	Purple																																																										
Terminal Pin	SPHD-002T-P0.5 (J.S.T)	Housing for CN71 Single side housing																																																													

Signal Harness

Model	EZA-CNHA-1	
Housing	PADP-16V-1-S	
Terminal Pin	SPH-002T-P0.5L SPND-002T-C0.5 (J.S.T)	

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500±10mm

Pin No.	Cable	AWG	Color
1	UL1007	28	Red
2	UL1007	28	Black
3	UL1007	28	White
4	UL1007	28	Black
5	UL1007	28	Yellow
6	UL1007	28	Black
7	UL1007	28	Blue
8	UL1007	28	Black
9	UL1007	28	Green
10	UL1007	28	Black
11	UL1007	28	Orange
12	UL1007	28	Black
13	UL1007	28	Gray
14	UL1007	28	Black
15	UL1007	28	Purple
16	UL1007	28	Gray