

# I/O Cables



## CH Series CATALOG

**For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.**

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

### Features

- Diverse cables available for connection to various PLCs and controller
- Customizable cable arrangement
- Diverse cable lengths for various user requirements
- Customizable branching cable types

### Ordering Information

This is only for reference.

For selecting the specified model, follow the Autonics website.

Check PLC / SERVO Connector, cable appearance, cable selection and connection to order a product. Optional specifications, needed to contact Autonics

If there is no items you are looking for, please contact Autonics.

**CH ① - ② ③ - ④ ⑤ ⑥ ⑦ ⑧ - ⑨**

- ① No. of connector pins**  
Number: Number of connector pins
- ② PLC / SERVO connector**  
HP: Hirose plug  
FP: Fujitsu plug  
DP: D-sub plug  
DS: D-sub socket  
MP: 3M plug (latch)  
MQ: 3M plug (bolt)
- ③ Cable length**  
005: 0.5 m  
010: 1 m  
015: 1.5 m  
020: 2 m  
025: 2.5 m  
030: 3 m  
040: 4 m  
050: 5 m
- ④ Position of PLC (SERVO) power connection pin**
- ⑤ Signal arrangement**
- ⑥ PLC (SERVO) power connection pin**
- ⑦ Connection type of PLC (SERVO)**
- ⑧ PLC (SERVO) connector direction**
- ⑨ Cable branching**

### Specifications

Series	CH Series
<b>Cable connector</b>	PLC / SERVO side - Terminal block side
PLC / SERVO side	Hirose 20-pin / 40-pin socket Fujitsu 40-pin socket D-Sub 37-pin socket / plug MDR (latch) 20-pin / 26-pin / 50-pin socket MDR (bolt) 26-pin / 50-pin socket
Terminal block side	Hirose 20-pin / 26-pin / 40-pin / 50-pin socket
<b>Wire</b> <sup>01)</sup>	UL 20276 TWIST 20C / 40C / 26C / 50C
<b>Conductor characteristics</b>	7 / 0.127 mm (AWG 28) × 20P, 7 / 0.127 mm (AWG 28) × 13P, 7 / 0.127 mm (AWG 28) × 10P, 7 / 0.127 mm (AWG 28) × 25P
<b>Insulation diameter</b>	0.12 mm <sup>2</sup>
<b>Cable diameter</b>	∅ 6.3 mm (26C) / ∅ 7.2 mm (40C) / ∅ 8.9 mm (50C)
<b>Rated current</b>	≤ 1 A
<b>Conductor resistance</b> <sup>02)</sup>	≤ 0.223 Ω/m
<b>Insulation voltage</b>	500 VAC~ 50/60Hz for 1 min
<b>Insulation resistance</b>	≥ 15 MΩ/km
<b>Ambient temperature</b>	-15 to 55°C, storage: -25 to 65°C (no freezing or condensation)
<b>Ambient humidity</b>	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)

01) Color is black.

02) Conductor resistance value is rated at 20 °C.

## ■ Unit weight : PLC cable

- It excludes the package weight (+ 5 g). Unit weight is different depending on the cable length.

Type	No. of pin	Branching	Model	Weight
Hirose plug	20-pin	Non-branching	CH20-HP□-□	≈ 37 to 298 g
	40-pin	Non-branching	CH40-HP□-□	≈ 58 to 391 g
		2-branching	CH40-HP□-□-2S	≈ 55 to 388 g
		2-branching	CH40-HP□-□-2L	≈ 55 to 388 g
		2-branching	CH40-HP□-□-YS	≈ 58 to 391 g
		2-branching	CH40-HP□-□-FS	≈ 58 to 391 g
Fujitsu plug	40-pin	Non-branching	CH40-FP□-□	≈ 85 to 418 g
	2-branching	CH40-FP□-□-2S	≈ 88 to 421 g	
	2-branching	CH40-FP□-□-2L	≈ 88 to 421 g	
D-Sub plug	37-pin	Non-branching	CH37-DP□-□	≈ 90 to 423 g
	2-branching	CH37-DP□-□-2S	≈ 84 to 417 g	
	2-branching	CH37-DP□-□-2L	≈ 84 to 417 g	
D-Sub Socket	37-pin	Non-branching	CH37-DS□-□	≈ 90 to 423 g
	2-branching	CH37-DS□-□-2S	≈ 84 to 417 g	
	2-branching	CH37-DS□-□-2L	≈ 84 to 417 g	

## ■ Unit weight : SERVO cable

- It excludes the package weight (+ 5 g). Unit weight is different depending on the cable length.




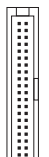
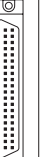
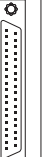

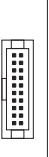
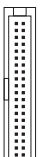

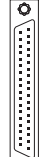

Type	No. of pin	Model	Weight
3M plug (latch)	20-pin	CH20-MP□-□	≈ 46 to 301 g
	26-pin	CH26-MP□-□	≈ 72 to 267 g
	50-pin	CH50-MP□-□	≈ 95 to 587 g
3M plug (bolt)	26-pin	CH26-MQ□-□	≈ 74 to 269 g
	50-pin	CH50-MQ□-□	≈ 98 to 590 g

## Connectible Connectors









- These are shape and direction of connectors in PLC / SERVO to which CH series cable can be connected.
- These images stand for the direction of cable running down.

### ■ PLC connector

#### • Non-branching


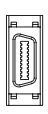
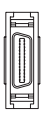


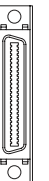
Direction	Right (R) 					Left (L) 				
Type	Hirose plug	Fujitsu plug	D-Sub plug	D-Sub socket	Hirose plug	Fujitsu plug	D-Sub plug	D-Sub socket		
No. of pin	20-pin	40-pin	40-pin	37-pin	37-pin	20-pin	40-pin	40-pin	37-pin	37-pin
Shape										

#### • 2-branching


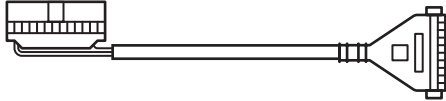


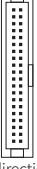
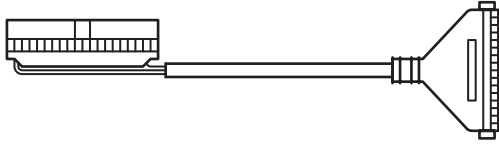



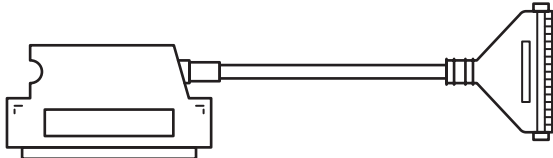



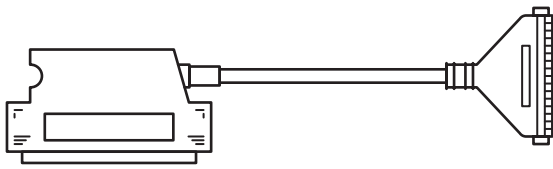

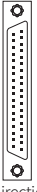

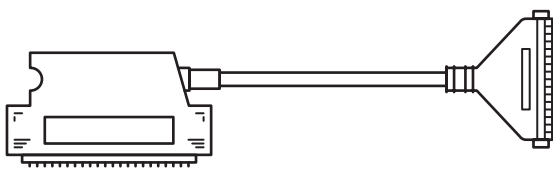


Direction	Right (R) 	Left (L) 	Right + Left (W, X) <sup>01</sup> 	Left + Right (Y, Z) <sup>01</sup> 
Type	Hirose plug	Hirose plug	Hirose plug	Hirose plug
No. of pin	40-pin	40-pin	40-pin	40-pin
Shape				

01) It is decided according to the pin arrangement. For detailed information, contact Autonics.

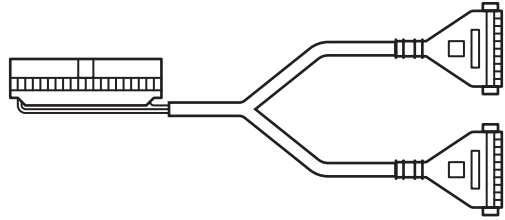
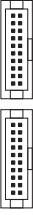
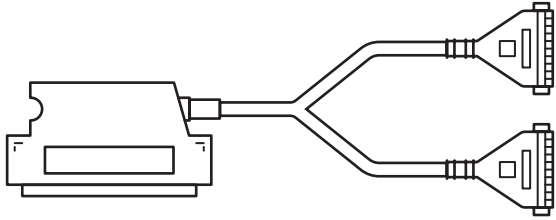
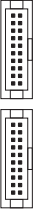
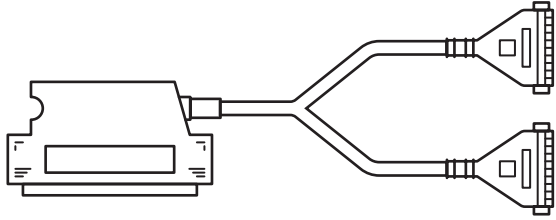

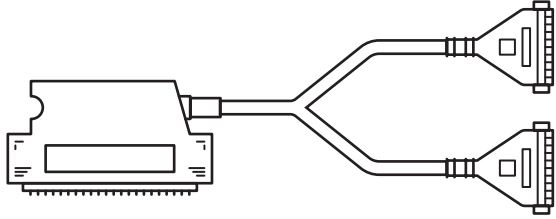

### ■ SERVO connector

Direction	Right (R) 				
Type	3M plug (latch)			3M plug (bolt)	
No. of pin	20-pin	26-pin	50-pin	26-pin	50-pin
Shape					

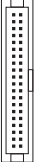
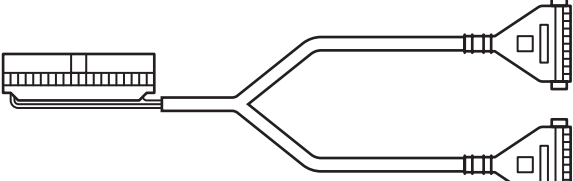




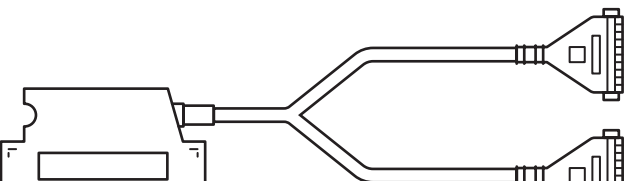




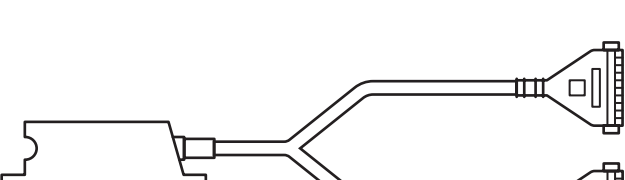








## Cable Appearance: Non-branching

PLC connector		Cable model	Cable appearance	Terminal block connector
Type	Direction			
Hirose 20-pin plug	 R direction	CH20-HP□-□ R		
	 L direction	CH20-HP□-□ L		
Hirose 40-pin plug	 R direction	CH40-HP□-□ R		
	 L direction	CH40-HP□-□ L		
Fujitsu 40-pin plug	 R direction	CH40-FP□-□ R		
	 L direction	CH40-FP□-□ L		
D-sub 37-pin plug	 R direction	CH37-DP□-□ R		
	 L direction	CH37-DP□-□ L		
D-sub 37-pin socket	 R direction	CH37-DS□-□ R		
	 L direction	CH37-DS□-□ L		

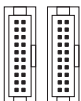
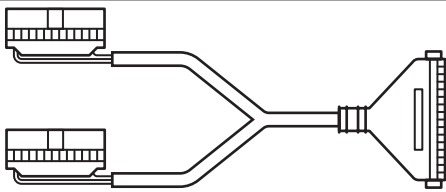

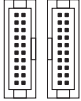
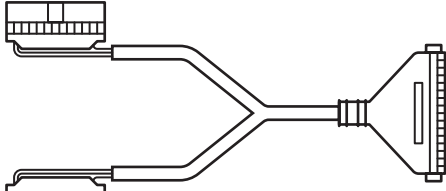

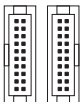
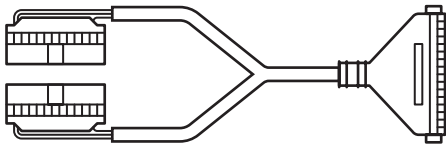

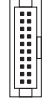
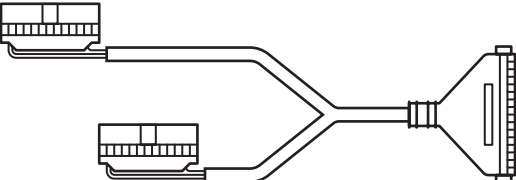

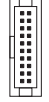
## Cable Appearance: Terminal block side 2-branching short type

PLC connector		Cable model	Cable appearance	Terminal block connector
Type	Direction			
Hirose 40-pin plug	R direction	CH40-HP□-□R-2S		
	L direction	CH40-HP□-□L-2S		
Fujitsu 40-pin plug	R direction	CH40-FP□-□R-2S		
	L direction	CH40-FP□-□L-2S		
D-sub 37-pin plug	R direction	CH37-DP□-□R-2S		
	L direction	CH37-DP□-□L-2S		
D-sub 37-pin socket	R direction	CH37-DS□-□R-2S		
	L direction	CH37-DS□-□L-2S		

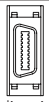
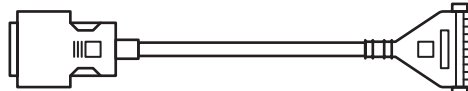

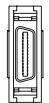
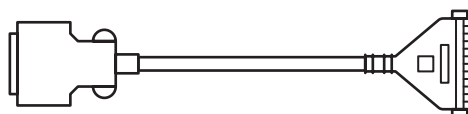


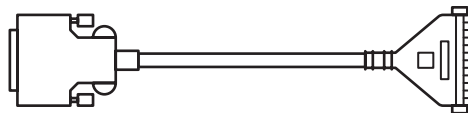

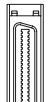
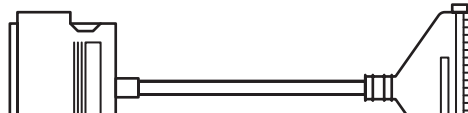


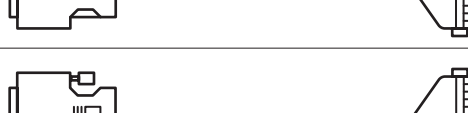

## Cable Appearance: Terminal block side 2-branching long type

PLC connector		Cable model	Cable appearance	Terminal block connector
Type	Direction			
Hirose 40-pin plug	 R direction	CH40-HP□-□ R-2L		 
	 L direction	CH40-HP□-□ L-2L		
Fujitsu 40-pin plug	 R direction	CH40-FP□-□ R-2L		 
	 L direction	CH40-FP□-□ L-2L		
D-sub 37-pin plug	 R direction	CH37-DP□-□ R-2L		 
	 L direction	CH37-DP□-□ L-2L		
D-sub 37-pin socket	 R direction	CH37-DS□-□ R-2L		 
	 L direction	CH37-DS□-□ L-2L		

## Cable Appearance: PLC side 2-branching short type

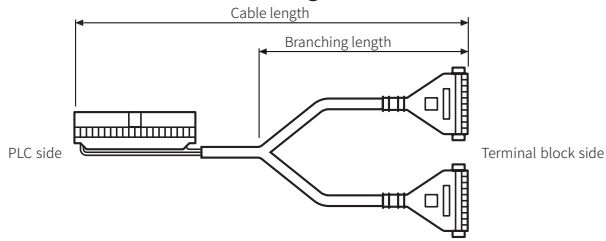
PLC connector		Cable model	Cable appearance	Terminal block connector
Type	Direction			
Hirose 20-pin plug	 <p>R direction + R direction</p>	CH40-HP□-□RYS		
	 <p>R direction + L direction</p>	CH40-HP□-□WYS CH40-HP□-□XYS		
	 <p>L direction + R direction</p>	CH40-HP□-□YYS CH40-HP□-□ZYS		
	 <p>R direction + R direction</p>	CH40-HP□-□RFS		
	 <p>L direction + L direction</p>	CH40-HP□-□LFS		

## Cable Appearance: SERVO

SERVO connector		Cable model	Cable appearance	Terminal block connector
Type	Direction			
3M 20-pin plug (latch)	 R direction	CH20-MP□-□ R		
3M 26-pin plug (latch)	 R direction	CH26-MP□-□ R		
3M 26-pin plug (bolt)	 R direction	CH26-MQ□-□ R		
3M 50-pin plug (latch)	 R direction	CH50-MP□-□ R		
3M 50-pin plug (bolt)	 R direction	CH50-MQ□-□ R		

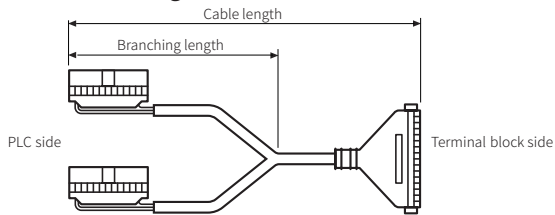
## Cable Length of Branching Type Cable

### Terminal block side branching cable

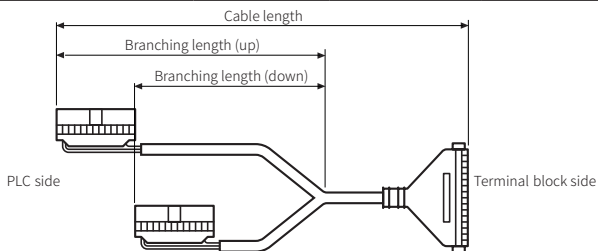


Cable model	Branching	Cable length	Branching length
CH□-□005-□-2S	2-branching short type	0.5 m	0.15 m
CH□-□010-□-2S		1 m	0.15 m
CH□-□015-□-2S		1.5 m	0.15 m
CH□-□020-□-2S		2 m	0.15 m
CH□-□025-□-2S		2.5 m	0.15 m
CH□-□030-□-2S		3 m	0.15 m
CH□-□040-□-2S		4 m	0.15 m
CH□-□050-□-2S	5 m	0.15 m	
CH□-□005-□-2L	2-branching long type	0.5 m	0.3 m
CH□-□010-□-2L		1 m	0.8 m
CH□-□015-□-2L		1.5 m	1.3 m
CH□-□020-□-2L		2 m	1.8 m
CH□-□025-□-2L		2.5 m	2.3 m
CH□-□030-□-2L		3 m	2.8 m
CH□-□040-□-2L		4 m	3.8 m
CH□-□050-□-2L	5 m	4.8 m	

### PLC side branching cable



Cable model	Branching	Cable length	Branching length
CH40-HP005-□-YS	2-branching right/left type	0.5 m	0.15 m
CH40-HP010-□-YS		1 m	0.15 m
CH40-HP015-□-YS		1.5 m	0.15 m
CH40-HP020-□-YS		2 m	0.15 m
CH40-HP025-□-YS		2.5 m	0.15 m
CH40-HP030-□-YS		3 m	0.15 m
CH40-HP040-□-YS		4 m	0.15 m
CH40-HP050-□-YS	5 m	0.15 m	



Cable model	Branching	Cable length	Branching length
CH40-HP005-□-FS	2-branching up/down type	0.5 m	Up: 0.15 m Down: 0.09 m
CH40-HP010-□-FS		1 m	
CH40-HP015-□-FS		1.5 m	
CH40-HP020-□-FS		2 m	
CH40-HP025-□-FS		2.5 m	
CH40-HP030-□-FS		3 m	
CH40-HP040-□-FS		4 m	
CH40-HP050-□-FS	5 m		