English

Accessory

Camera Link Repeater

CL-R100

Product Specification & Operation Manual

CIS Corporation

Table of Contents

1. Scope of Application....3
2. Handling Precautions....3
3. General Specifications....4
4. Connection Diagram....5
4.1. Non-PoCL Camera and Non-PoCL Frame Grabber Board....5
4.2. Non-PoCL Camera and PoCL Frame Grabber Board....5
4.3. PoCL Camera and Non-PoCL Frame Grabber Board....6
4.4. PoCL Camera and PoCL Frame Grabber Board....6
5. Trigger Source Selection....7
6. PoCL-Lite Conversion....7
7. External Connector Pin Assignment....8
7.1. 12pins Circular Connector (HR10-10R-12PA equivalent)....8
7.2. 26pins Compact Camera Link Connector....9
8. Switch Settings and Connector Pin Assignments....10
9. Initial Settings....11
10. Dimensions....12
11. Cases for Indemnity (Limited Warranty)....13
12. Product Service....13

1. Scope of Application

This is to describe CL-R100 (Camera Link Repeater). All specifications contained herein are subject to change without prior notice. Reproduction in whole or in part is prohibited.

2. Handling Precautions

The camera link repeater must not be used for any nuclear equipments or aerospace equipments with which mechanical failure or malfunction could result in serious bodily injury or loss of human life. Our warranty does not apply to damages or defects caused by irregular and/or abnormal use of the product. Please observe all warnings and cautions stated below.
Our warranty does not apply to damages or malfunctions caused by neglecting these precautions.

- Do not use or store the repeater in the following extreme conditions:
  - Extremely dusty or humid places.
  - Extremely hot or cold places (operating temperature –5℃ to +45℃)
- Do not apply excessive force or static electricity that could damage the repeater.
- Do not apply excessive voltage. (Use only the specified voltage.) Unstable or improper power supply voltage may cause damages or malfunction of the repeater.
- Confirm how to supply power to the camera, to the camera link cables, and the capture board before connecting any of these. Wrong connection may cause damages or malfuction of the connected devices.
- The CL-R100 shall be used with CIS camera link interfaced cameras. CIS does not guarantee specifications of CL-R100 when it is used with other than those.

3. General Specifications

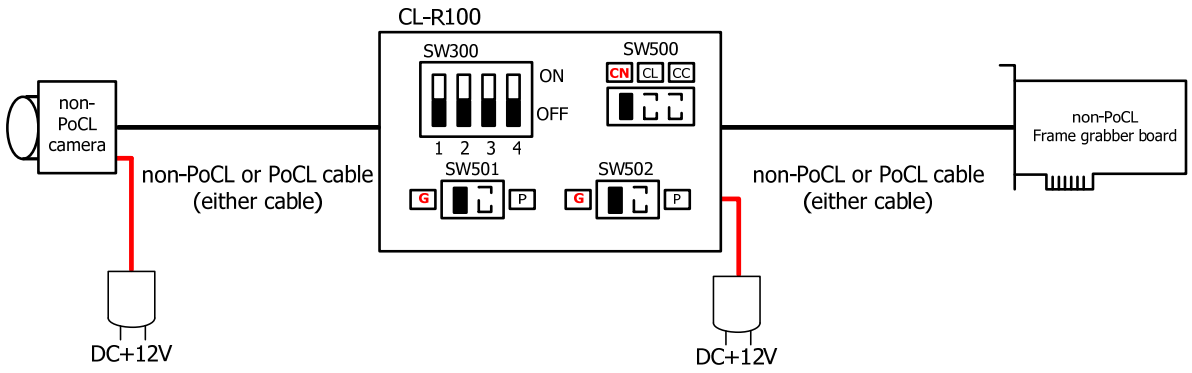
(1) Power Requirements	DC+12V±10%	
(2) Power Consumption	1.0W (at 72MCLK operation, Typ. 75mA)	
(3) Dimensions	Refer to overall dimension drawing (H: 29mm W: 54mm D: 71.5mm without protruding portion.)	
(4) Weight	Approx. 140g	
(5) Safety/Quality Standards	UL: Comform to UL Standard including materials and others.	
	RoHS: Conform to RoHS.	
	FCC Class A Digital Device This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.	
(6) Durability	Vibration resistance	Acceleration : 98m/s^2 (10G)
		Frequency : 20～200 Hz
		Direction : X,Y,Z 3directions
		Testing time : 120 min for each direction
	Shock resistance	No malfunction shall be occurred with 980m/s^2(100G) for ±X, ±Y, and ±Z, 6 directions. (without package)
(7) Operation Environment	Temperature	Performance guaranteed temperature: 0℃～+40℃ Operation guaranteed temperature: -5℃～+45℃ ※ All the specifications specified in this manual is guaranteed under performance guaranteed temperature. ※ All the functions operate normally under operation guaranteed temperature.
	Humidity	RH 20～80% with no condensation.
(8) Storage Environment	Temperature	-25℃ ～ +60℃
	Humidity	RH 20～80% with no condensation.

4. Connection Diagram

4.1. Non-PoCL Camera and Non-PoCL Frame Grabber Board

(Factory Setting)

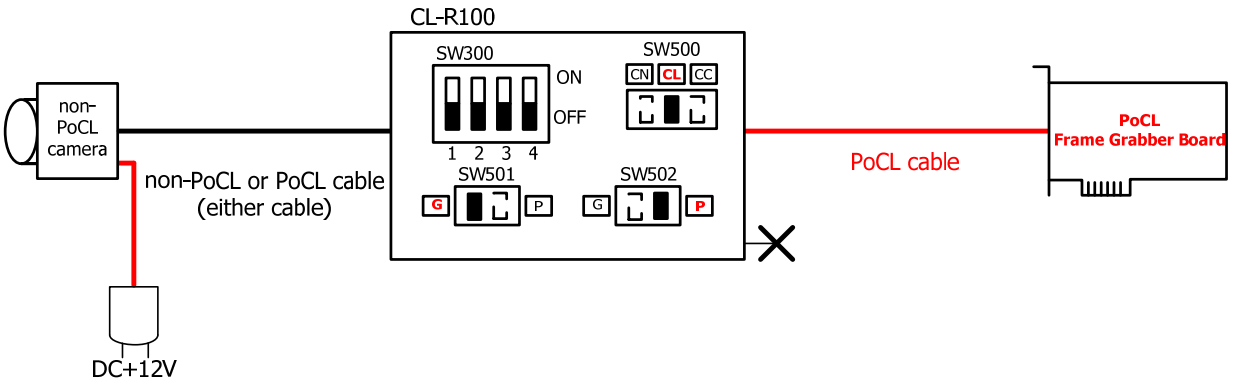
SW500 : "CN" Side
SW501 : "G" Side
SW502 : "G" Side
SW300 : All "OFF" Side



4.2. Non-PoCL Camera and PoCL Frame Grabber Board

(Operate the CL-R100 with power supplied from the frame grabber board)

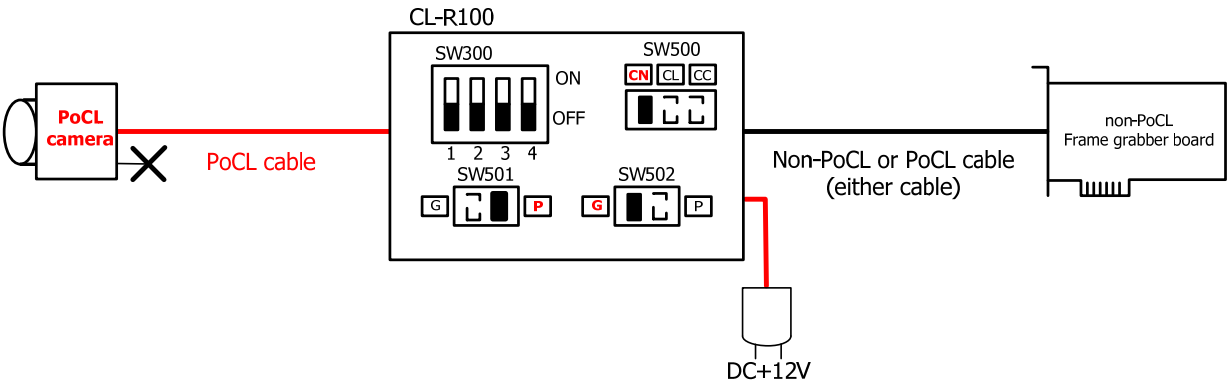
SW500 : "CL" Side
SW501 : "G" Side
SW502 : "P" Side
SW300 : All "OFF" Side



4.3. PoCL Camera and Non-PoCL Frame Grabber Board

(Operate both of the camera and the CL-R100 with power supplied form the CL-R100)

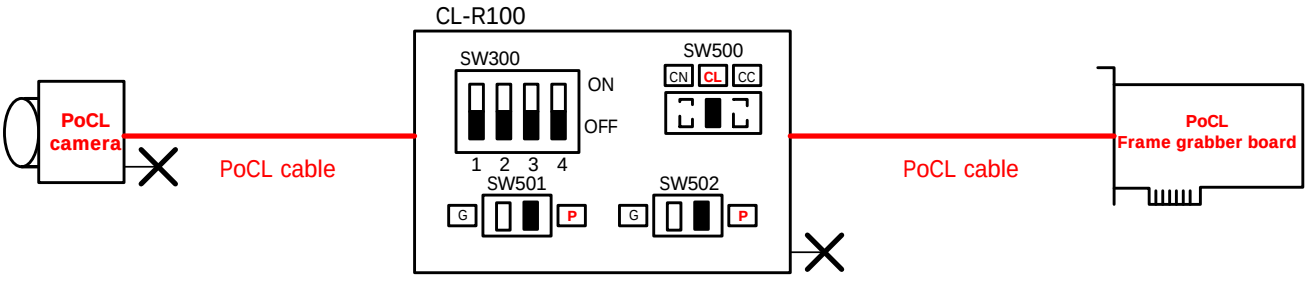
SW500 : "CN" Side
SW501 : "P" Side
SW502 : "G" Side
SW300 : All "OFF" Side



4.4. PoCL Camera and PoCL Frame Grabber Board

(Operate both of the camera and the CL-R100 with power supplied form the frame grabber board)

SW500 : "CL" Side
SW501 : "P" Side
SW502 : "P" Side
SW300 : All "OFF" Side



5. Trigger Source Selection

Output the trigger signals which were input from the camera link connector or the 12pins circular connctor exclusively to the camera link connector of the camera side.
Set the internal switch SW300-1 as below according to the trigger source selected.

SW300-1	Trigger Source Selection
OFF	Output the trigger input from the CC1 signal of the camera link connector of the frame grabber board side to the CC1 signal of the camera link connector of the camera side. The trigger input from the 12pins circular connector shall be ignored.
ON	Output the trigger input from the 12pins circular connector to the CC1 signal of the camera link connector of the camera side. The trigger input from the camera link connector of the frame grabber board side shall be ignored.

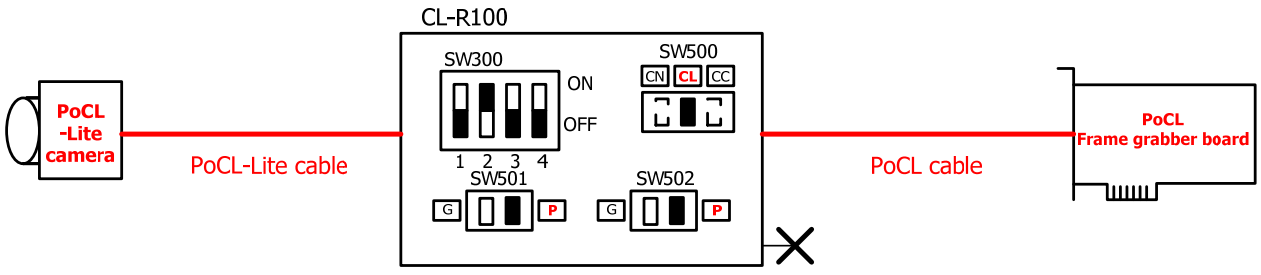
6. PoCL-Lite Conversion

You can convert the data from PoCL-Lite to Non-PoCL/PoCL, or convert the data from Non-PoCL/PoCL to PoCL-Lite. To convert the data, internal switch SW300-2 and SW300-3 shall be set as follows.

SW300-2	SW300-3	Video signal input from the camera	Video signal output to the frame grabber board
OFF	OFF	non-PoCL/PoCL (Base Configuration) Input	non-PoCL/PoCL (Base Configuration) Output
ON	OFF	PoCL-Lite Input	non-PoCL/PoCL (Base Configuration) Output
OFF	ON	non-PoCL/PoCL (Base Configuration) Input	PoCL-Lite Output
ON	ON	PoCL-Lite Input	PoCL-Lite Output

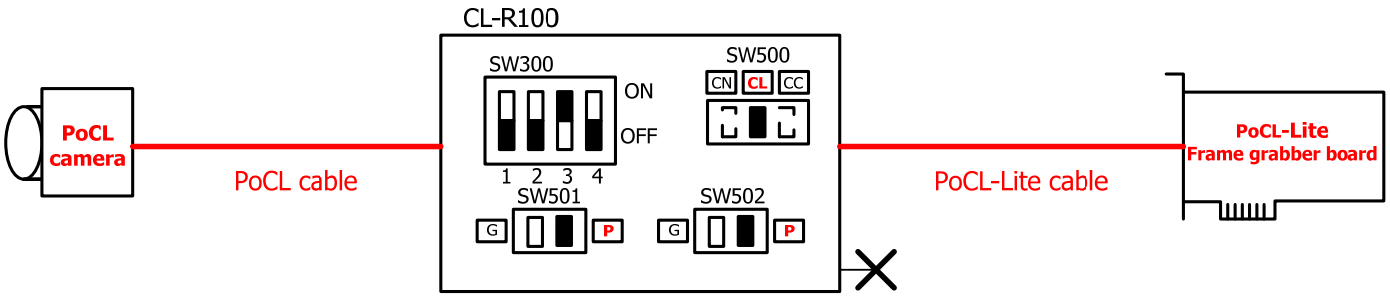
(Connecting Example 1) Convert the PoCL-Lite camera data to PoCL data

SW300 -2 : ”ON” : (PoCL-Lite input PoCL output)
SW500 : “CL” : Power supplied from the frame grabber board
SW501 : “P” : Power supplied to the camera
SW502 : “P” : Power supplied from the frame grabber board



(Connecting Example 2) Convert the PoCL camera data to PoCL-Lite data

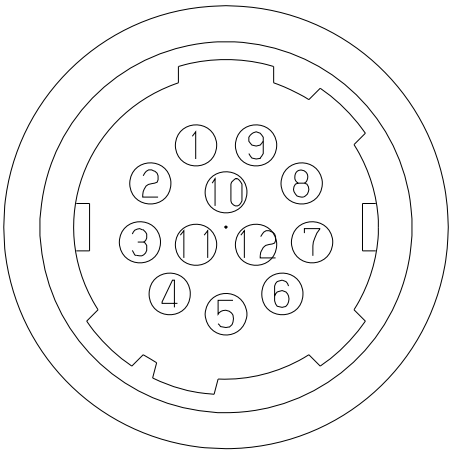
SW300 -3 : "ON" :(PoCL input PoCL-Lite output)
SW500 : "CL" : Power supplied from the frame grabber board
SW501 : "P" : Power supplied to the camera
SW502 : "P" : Power supplied from the frame grabber board



7. External Connector Pin Assignment

7.1. 12pins Circular Connector (HR10-10R-12PA equivalent)

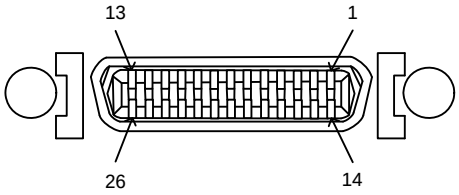
Pin No.	
1	GND
2	POWER IN DC +12V
3	NA
4	NA
5	GND
6	LVAL Output
7	FVAL Output
8	GND
9	NA
10	NA
11	TRG IN
12	GND



7.2. 26pins Compact Camera Link Connector

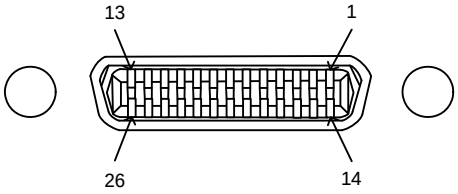
Camera connecting side: Standard (MDR connector) 10226-5212 PL(3M)

Pin No.		Pin No.	
1	GND / +12V(PoCL)	14	GND
2	CC4-	15	CC4+
3	CC3+	16	CC3-
4	CC2-	17	CC2+
5	CC1+	18	CC1-
6	SerTFG+	19	SerTFG-
7	SerTC-	20	SerTC+
8	X3+	21	X3-
9	XCLK+	22	XCLK-
10	X2+	23	X2-
11	X1+	24	X1-
12	X0+	25	X0-
13	GND	26	GND / +12V(PoCL)

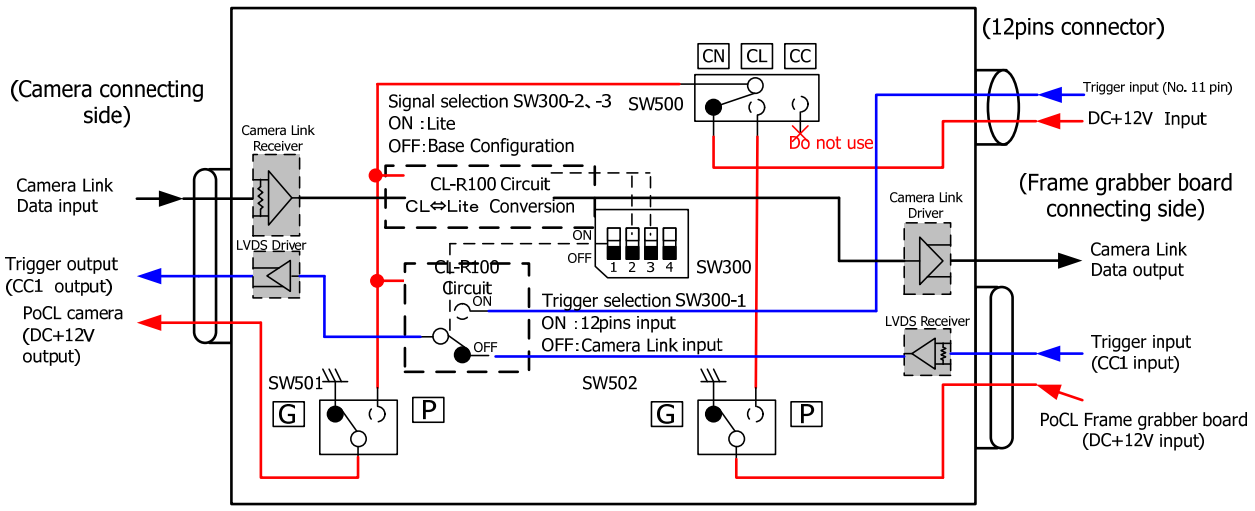


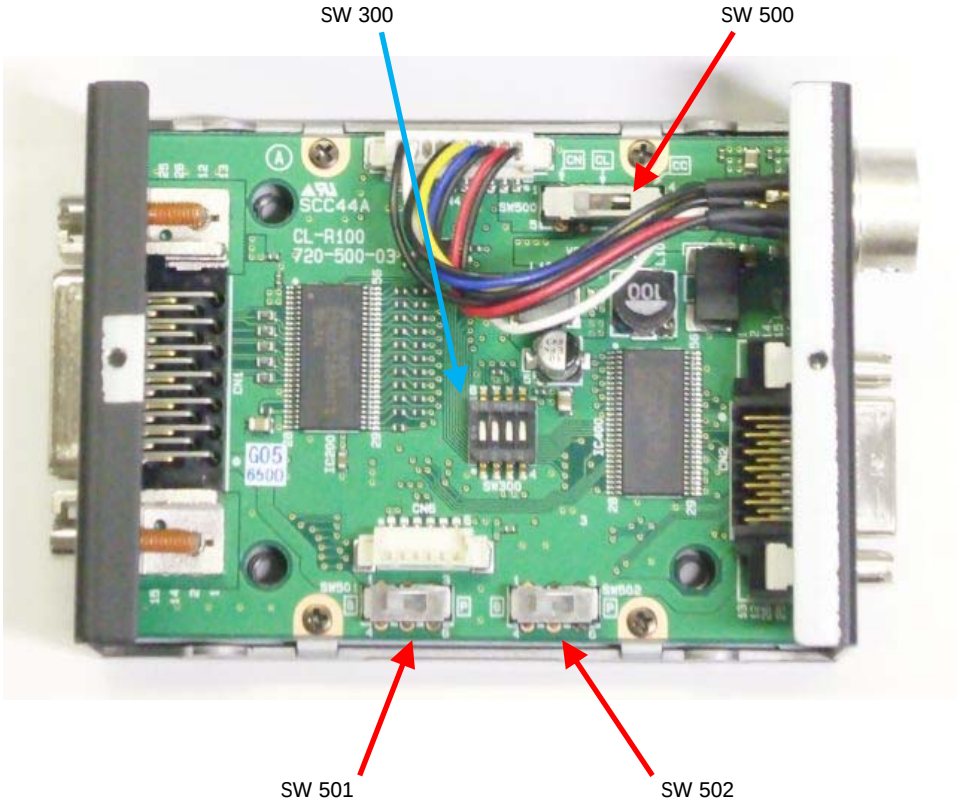
Frame grabber board connecting side: Small (SDR connector) 12226-5100-00 PL(3M)

Pin No.		Pin No.	
1	GND / +12V(PoCL)	14	GND
2	X0-	15	X0+
3	X1-	16	X1+
4	X2-	17	X2+
5	XCLK-	18	XCLK+
6	X3-	19	X3+
7	SerTC+	20	SerTC-
8	SerTFG-	21	SerTFG+
9	CC1-	22	CC1+
10	CC2+	23	CC2-
11	CC3-	24	CC3+
12	CC4+	25	CC4-
13	GND	26	GND / +12V(PoCL)



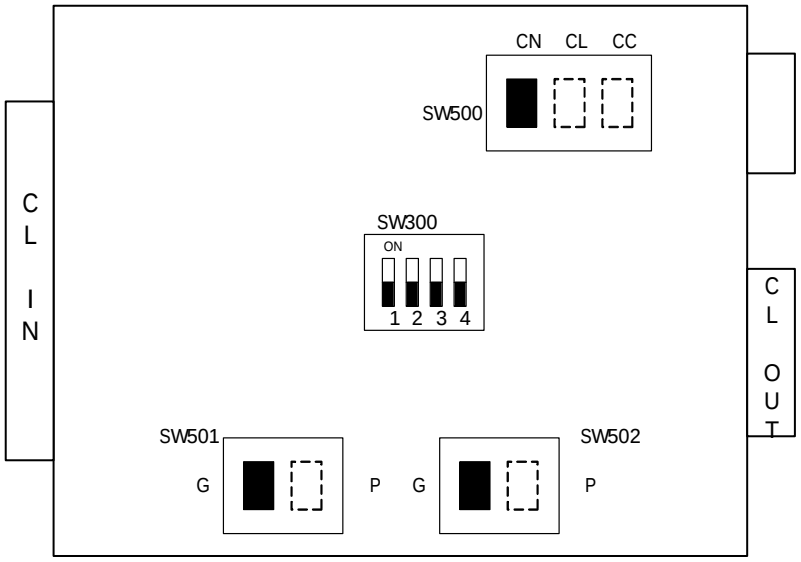
8. Switch Settings and Connector Pin Assignments





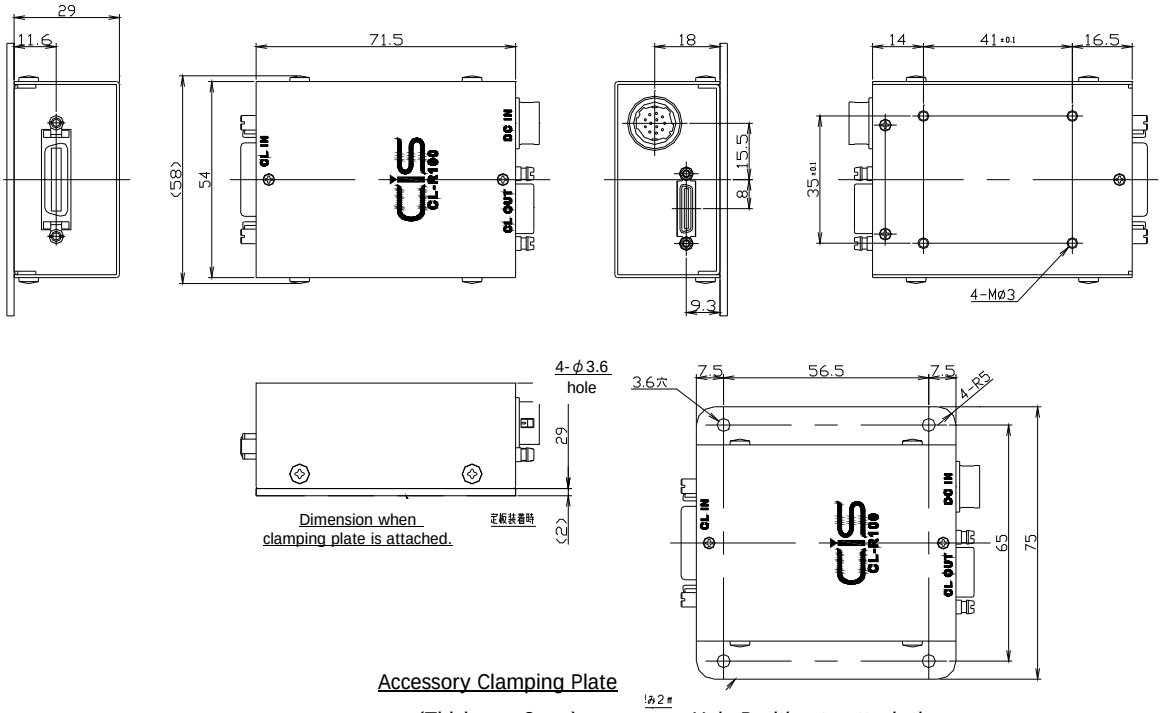
Note: When changing switch settings of CL-R100, turn off power of CL-R100 and the other devices in advance.

9. Initial Settings



SW500 : CN : Power supplied from 12pins circular connector
SW501 : “G”Side
SW502 : “G”Side
SW300-1 : OFF:Trigger input: Input trigger from the frame grabber board to camera link CC1.
SW300-2 : OFF:Video input: Base Configuration Input
SW300-3 : OFF:Video output: Base Configuration Output
SW300-4 : OFF: Not used

10. Dimensions



Accessory Clamping Plate
(Thickness 2mm)

Hole Position to attach the
Accessory Clamping Plate

999-387-00-00

11. Cases for Indemnity (Limited Warranty)

We shall be exempted from taking responsibility and held harmless for damage or losses incurred by the user in the following cases.

- In case damage or losses are caused by fire, earthquake, or other acts of God, acts by third party, deliberate or accidental misuse by the user, or use under extreme operating conditions.
- In case indirect, additional, consequential damages (loss of business interests, suspension of business activities) are incurred as result of malfunction or non-function of the equipment, we shall be exempted from responsibility for such damages.
- In case damage or losses are caused by failure to observe the information contained in the instructions in this product specification & operation manual.
- In case damage or losses are caused by use contrary to the instructions in this product specification & operation manual.
- In case damage or losses are caused by malfunction or other problems resulting from use of equipment or software that is not specified.
- In case damage or losses are caused by repair or modification conducted by the customer or any unauthorized third party (such as an unauthorized service representative).
- Expenses we bear on this product shall be limited to the individual price of the product.

12. Product Service

In case of abnormal operation, contact the distributor from whom you purchased the product.