SPECIFICATION

MODEL NO:HS-128-CRGAN
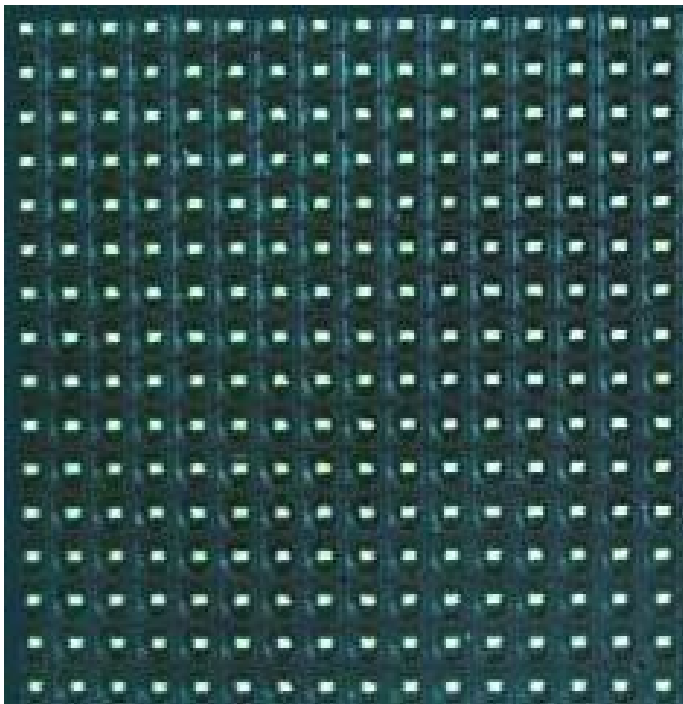
APPLICATION AREA	IN DOOR
LED TYPE	CHIP LED
COLOR	RED, GREEN COLOR
ISSUED DATE	2007. 09. 30
REVISION DATE	2008. 01. 15

ISSUE DEPT.			SBU		QRA	
ISSUE	REVIEW	APPR′L	REVIEW	APPR′L	REVIEW	APPR′L

[CUSTOMER APPROVAL]

1.PHOTOGRAPH
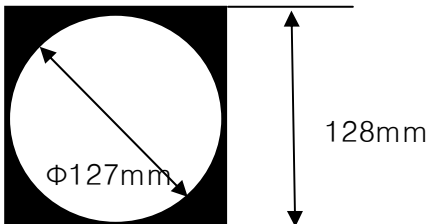
2.FEATURES

ITEM	DESCRIPTION
DISPLAY SIZE(W×H×D)	128 × 128 × 10.3(mm)
DOT PITCH	8mm
DISPLAY COLOR	(RED, GREEN)
DUTY RATE	1/16 DUTY
DOT MATRIX	256(16 × 16)
WEIGHT	130g
VIEWING ANGLE	120Deg.

3.OPTICAL CHARACTERISTICS

ITEM		SIMBOL	MIN	TYP	MAX	UNIT
BRIGHTNESS	RED	IV_r		240		cd/m^2
	GREEN	IV_g		180		
	AMBER	IV_b		400		
EMISSON WAVELENGTH	RED	λp_r		630		nm
	GREEN	λp_g		572		
		λp_b		–		

■TEST AREA

128mm

Φ127mm
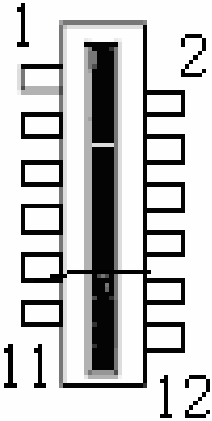
4.ELECTRICAL CHARACTERISTICS

$T_a = 5℃$
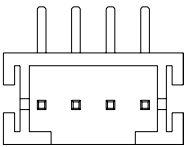
ITEM		MIN	TYP	MAX	UNIT
DC SUPPLY VOLTAGE	CIRCUIT		5.0	5.5	V
	LED		5.0	5.5	V
DC INPUT VOLTAGE	CIRCUIT	Vcc-0.3	Vcc	Vcc+0.3	V
	LED				V
CURRENT CONSUMPTION	CIRCUIT		0.3		A
	LED		3.0		A
TEMPERATURE	OPERATING	-25		+45	℃
	STORAGE	-25		+85	℃
INPUT LEVEL	LOW			0.8	V
	HIGH	2.4			V
CLOCK FREQUENCY			15.0		MHz

5.FUNCTION

5-1. SIGNAL FUCTION

PIN NO	NAME	FUNCTION DESCRIPTION	FEATURE
1	OE	Out Enable	
2	LATCH	Data Strobe	
3	GND	Signal Ground	
4	CLK	Data Shift	
5	GND	Signal Ground	
6	GD	Data Input_Green Color	
7	GND	Signal Ground	
8	RD	Data Input_Red Color	
9	SC0	Data Line Address Scan0	
10	SC1	Data Line Address Scan1	
11	SC2	Data Line Address Scan2	
12	SC3	Data Line Address Scan3	

5-2. POWER FUCTION

PIN NO	NAME	FUNCTION DESCRIPTION	FEATURE
1	VDD	Supply Voltage _ LED	
2	GND	Signal Ground	
3	GND	Signal Ground	
4	Vcc	Supply Voltage _ Circuit	

6.BLOCK DIAGRAM

INPUT

OUTPUT

Scan[0]_in → Scan[0]out

Scan[1]_in → Scan[1]out

Scan[2]_in → Scan[2]out

Scan[3]_in → Scan[3]out

RED

RED	16 Bit Shinft
	16 Bit Latch
	16 Bit Driver

16 x 16 DOT LED

4 TO 16 LINE

DECODER

Green	16 Bit Shinft
	16 Bit Latch
	16 Bit Driver

Green

CLK_in → CLK_out

LATCH_in → LATCH_out

OE_in → OE_out
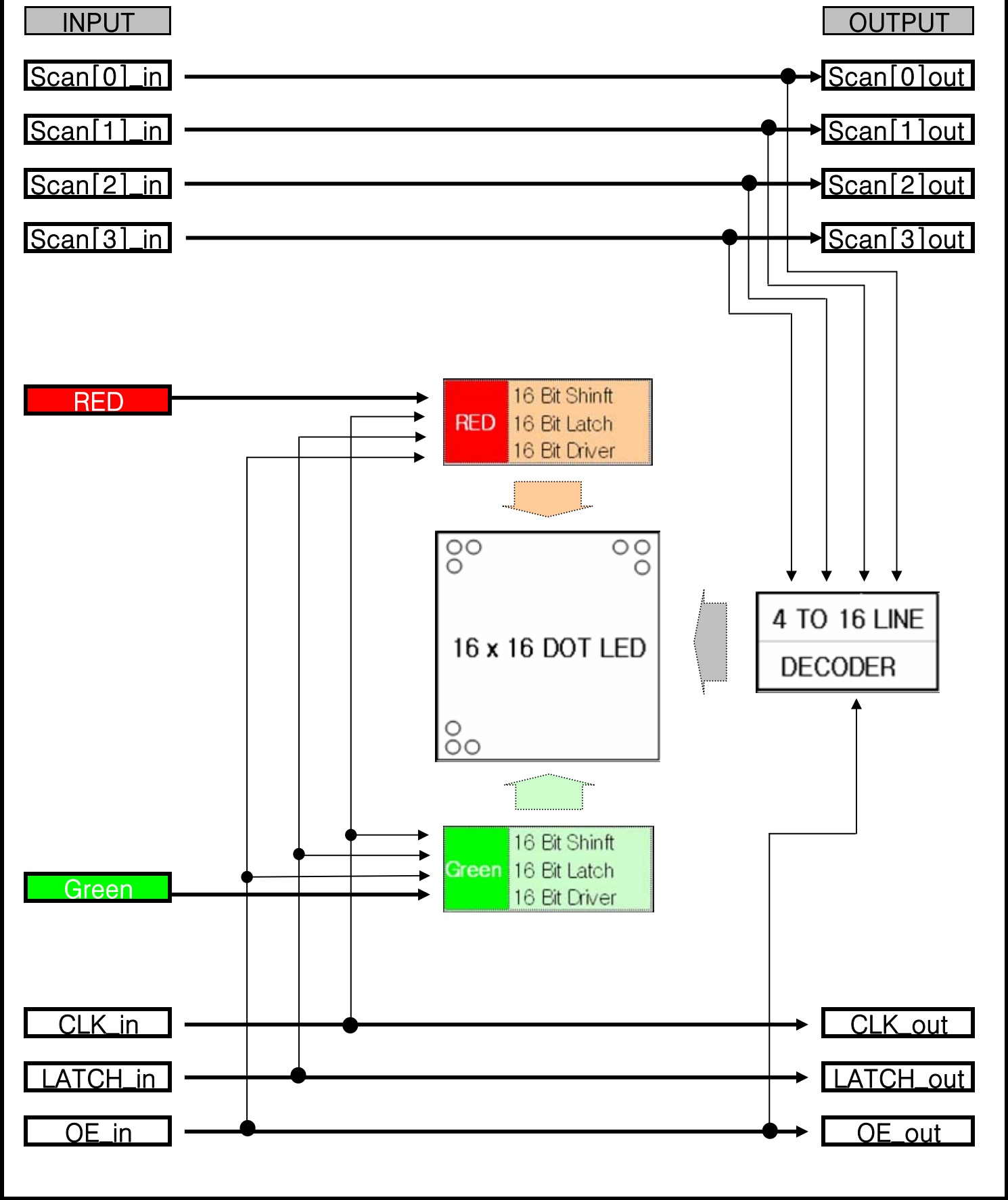
7.TIMMING CHART
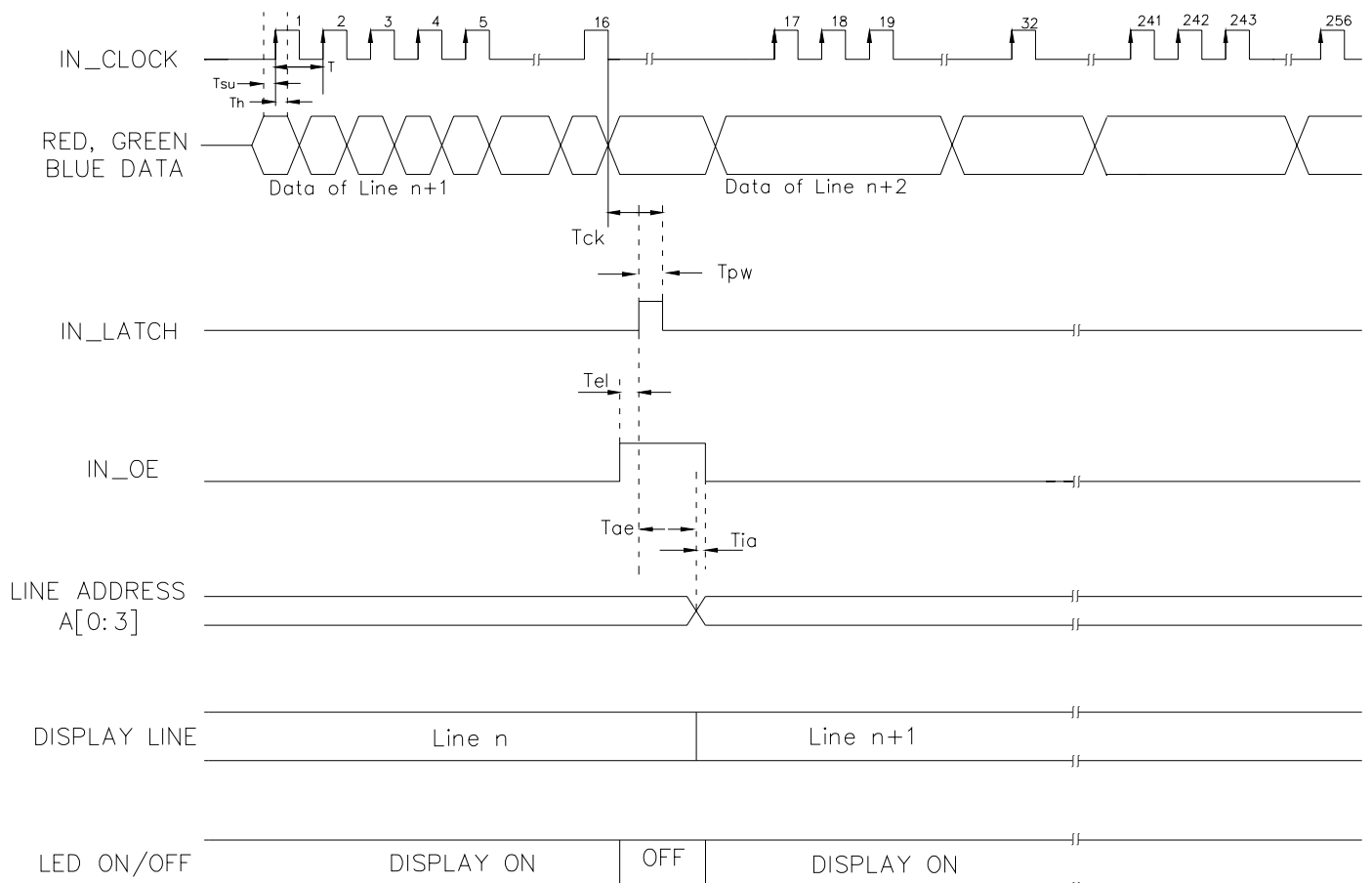
◆ OPERATION TIMING

ITEM	SYMBOL	MIN	TYP	MAX	UINT
CLOCK CYCLE	T	–	–	20	MHz
DATA SETUP TIME	Tsu	20	–	–	ns
DATA HOLD TIME	Th	25	–	–	ns
LATCH PULSE WIDTH	Tpw	60	–	–	ns
CLOCK-LATCH TIME	Tck	50	–	–	ns
ENABLE-LATCH TIME	Tel	100	–	–	ns
ADDRESS-ENABLE TIME	Tae	20	–	–	ns
LATCH-ADDRESS TIME	Tia	20	–	–	ns

8. DIMENSION
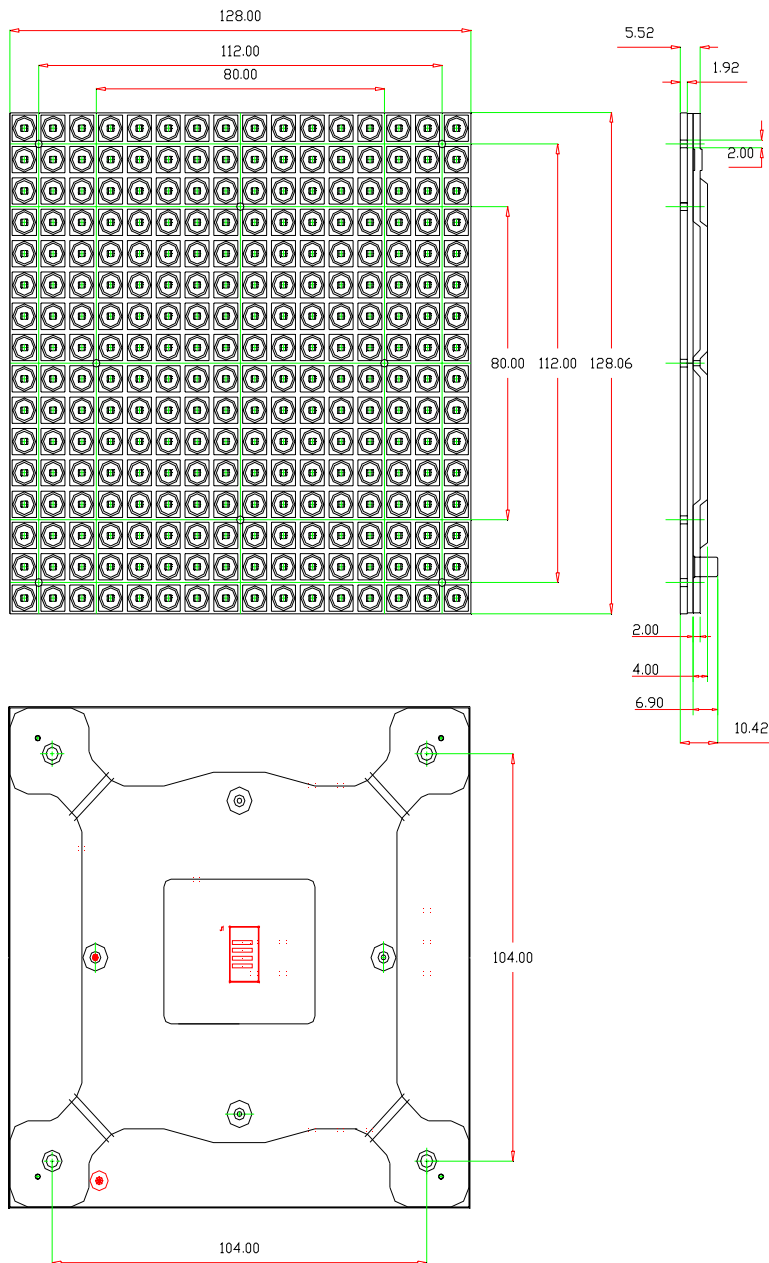
9. CONNECTION

9-1. DATA CABLE
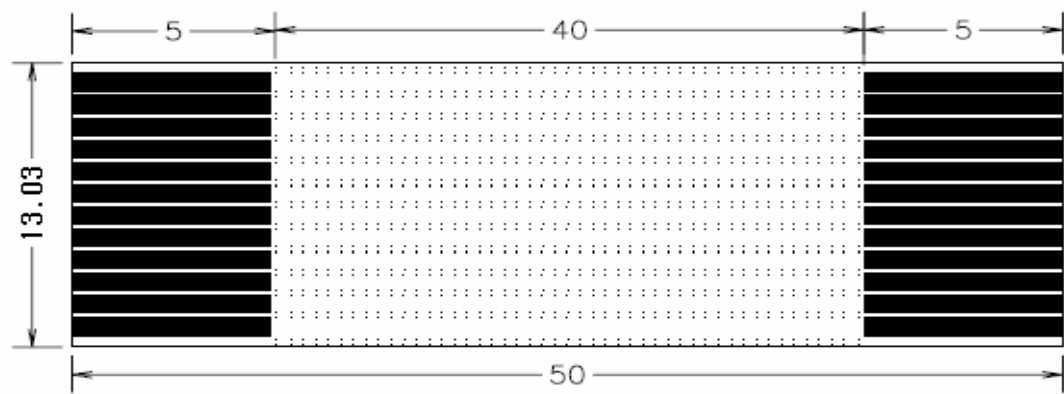
9-2. POWER CABLE
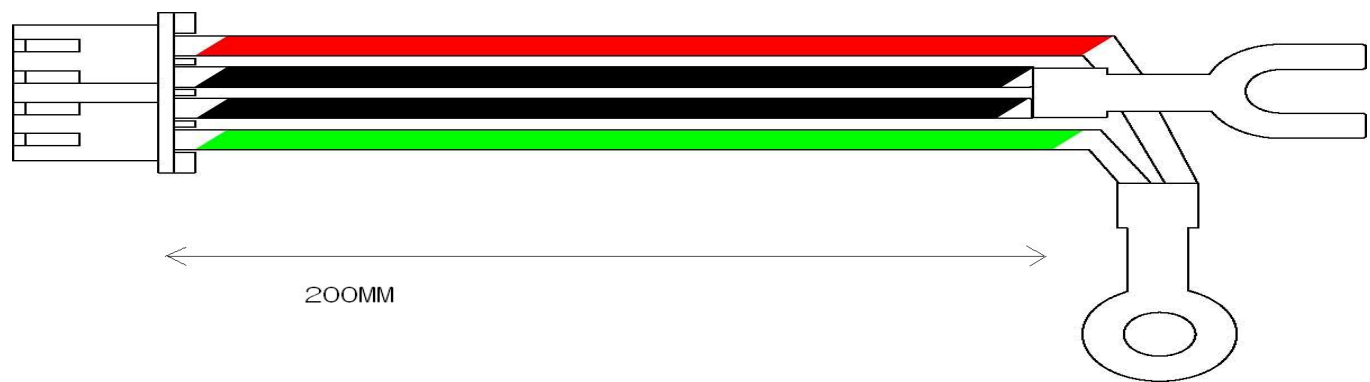
ITEM	VENDOR	MODEL NO.	SPECIFICATION	HOUSING MODEL NO.
DATA CABLE			12PIN,1 MM PITCH	
POWER CABLE		B4B-PH -SM3-TB	4 PIN, 2 mm PITCH	PHR-4-200R