



# GUOYEXING OPTOELECTRONICS CO.LTD

## SPECIFICATION

FOR APPROVAL

ISSUED DATE :

CUSTOMER :

DESCRIPTION :

MODEL NO.: GYX - XN20<2R1G1B>QD - 1

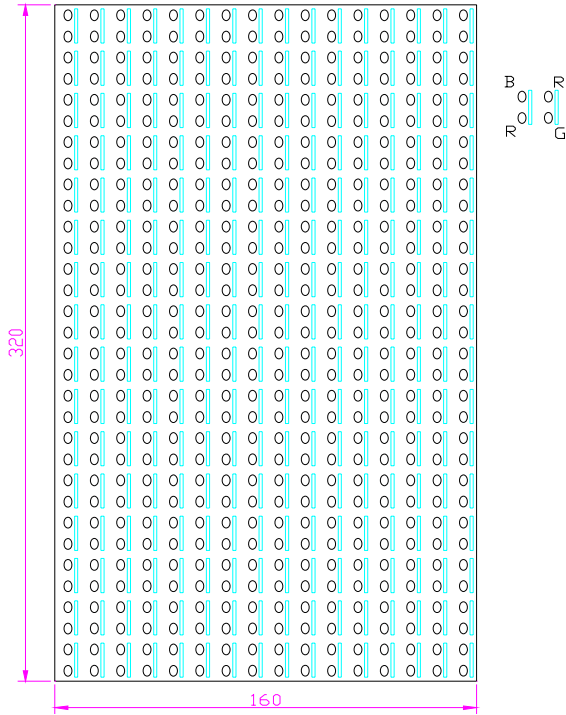
DOCUMENTNO. :

[ GUOYEXING TECH. ]

ISSUE	REVIEW	APPRL

[ CUSTOMER APPROVAL ]

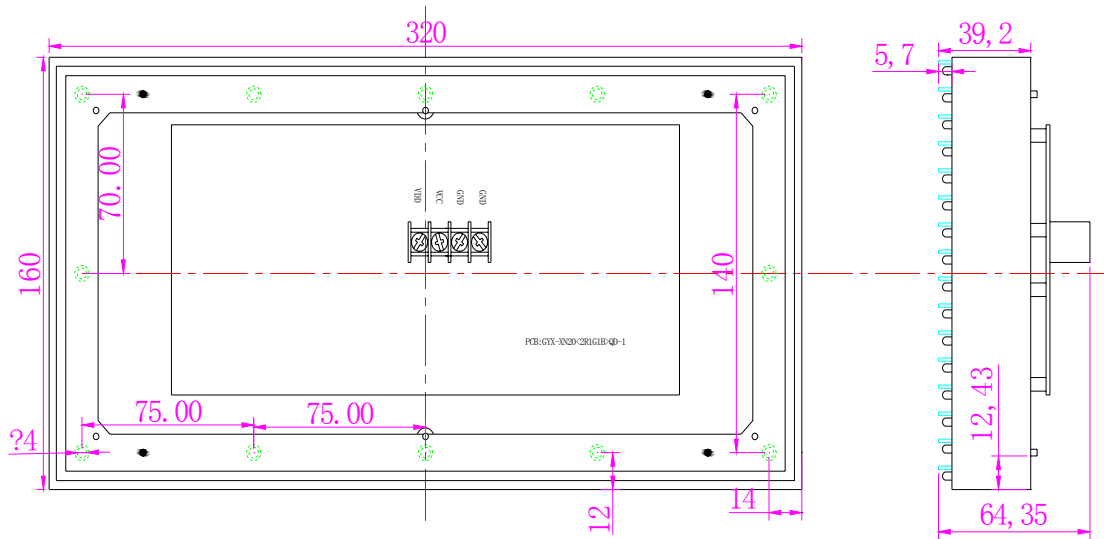

**\*DATE—CONNECTOR (JIN1、JOUT1)**



PIN NO	SIGNAL	PIN NO	SIGNAL
1	RA0	2	RA!
3	G0	4	B0
5	RB0	6	RB1
7	G1	8	B1
9	CLK	10	GND
11	STB	12	GND
13	OE	14	GND
15	GND	16	GND

**\*POWER CONNECTOR (J POWER1)**

NO	SIGNAL	LEVEL
1	VDD	5 (V)
2	VCC	5 (V)
3	GND	0 (V)
4	GND	0 (V)



This module designed for light emitting display device. Organize with 8x16 matrix combination with 128 of Red(2), P-G(1), Blue(1) lamps, for indoor use.

## 1、FEATURE

Active display size		320mm×160mm
Dot pitch		20mm
Display color		Red, P-Green, Blue, White, Full color
Drive type		STATIC STATE
Dot matrix		128(8×16)
Weight		945g

## 2、ABSOLUTE MAXIMUM RATINGS

Ta=25℃

ITEM	SYMBOL	RATING	UNIT	COND
Power dissipation	PD	51.2	W	
Supply voltage(DRIVE)	VCC	5	V	
Supply voltage(LED)	VDD	5	V	
Operating Temp	Topr	-20~+53℃	℃	
Storage Temp	Tstg	-20~+60℃	℃	

## 3、GUARANTEE TEMPERATURE FOR OPERATING

ITEM	ATMOSPHERIC TEMP	REMARK
Work Temp	-20~+53℃(Max)	50% Lit
Storage Temp	-20~+60℃(Max)	25% Lit

## 4、DISPLAY CHARACTERISTICS

4-1. Half viewing angle

———— ±60° /30

4-2. Brightness of emission area.(when black-out)

———— Clear

4-3. Brightness of non-emission area

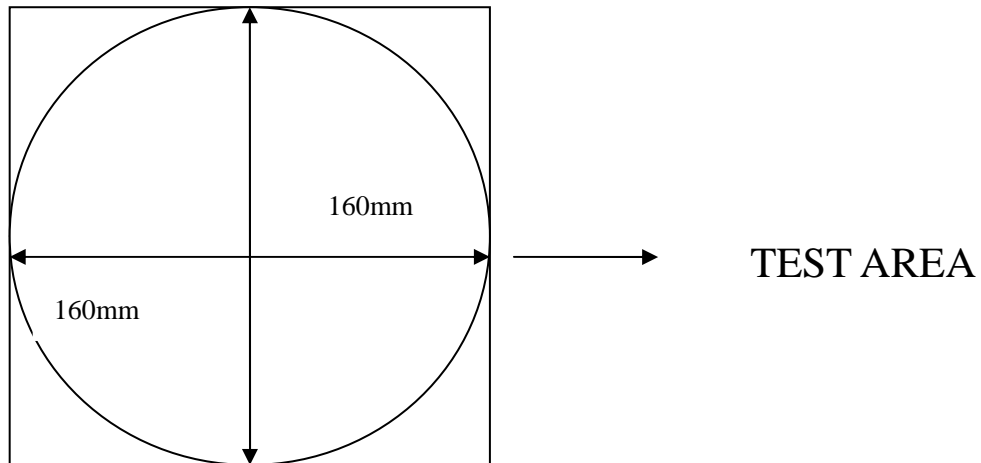
———— Black

## 5、OPTICAL CHARACTERISTICS

Ta=25°C

TTEM	SYMBOL	COND	MIN.	TYP	MAX	UNIT
Brightness	RED	IVr	420	535	650	MCD
	P-GREEN	IVg	1190	1367.5	1545	
	BLUE	IVb	350	385	420	
	WHITE	IVa	5600	6000	6400	CD/m²
Wavelength	RED	Dr	—	625	—	Nm
	GREEN	Dg	—	525	—	
	BLUE	Db	—	468	—	

(\*1)

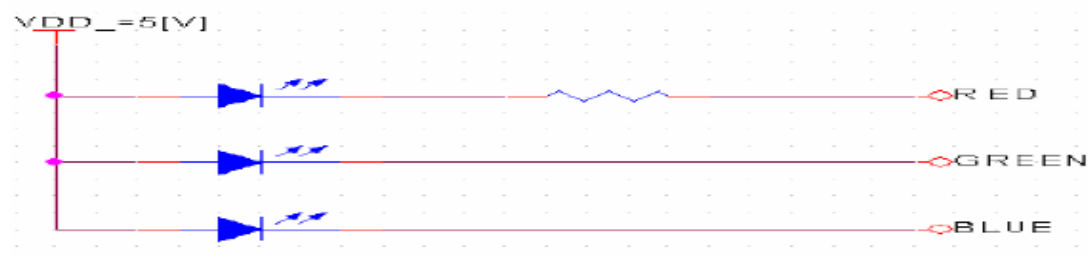


## 6、ELECTRICAL CHARACTERISTICS

### 6-1.Voltage-Current Characteristics

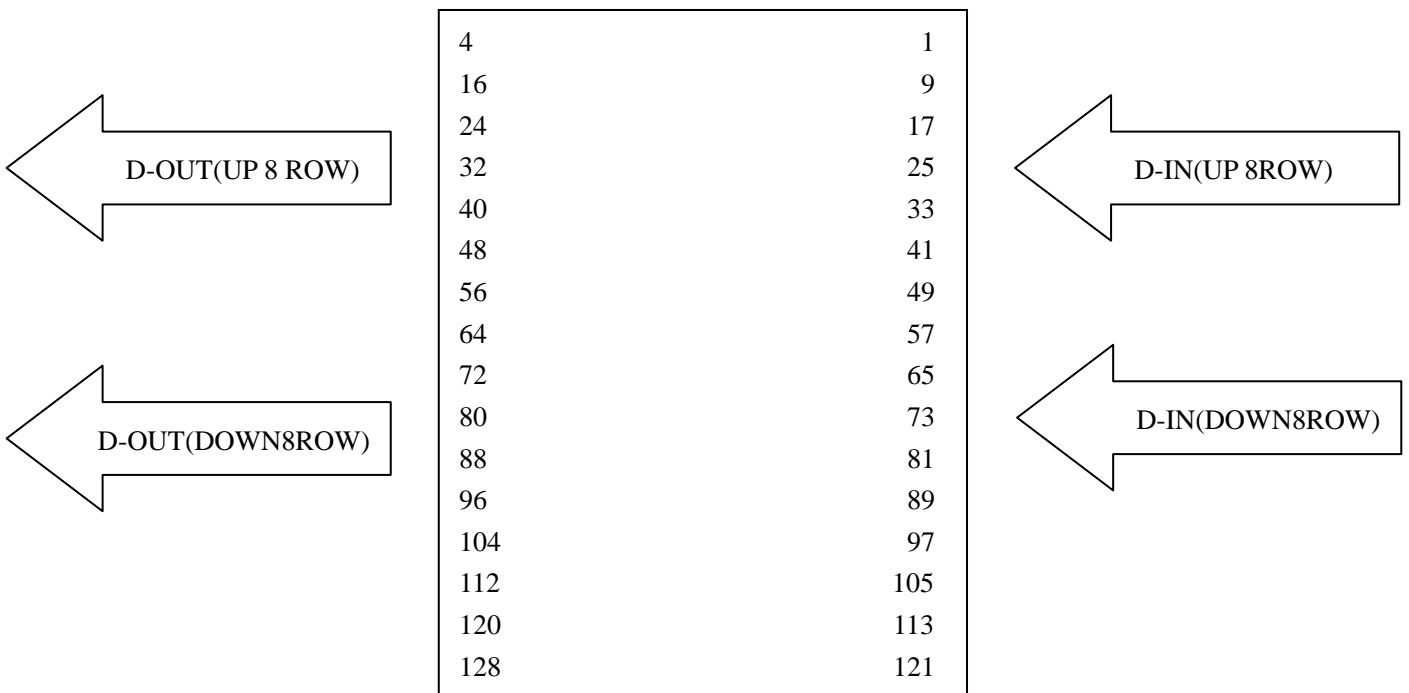
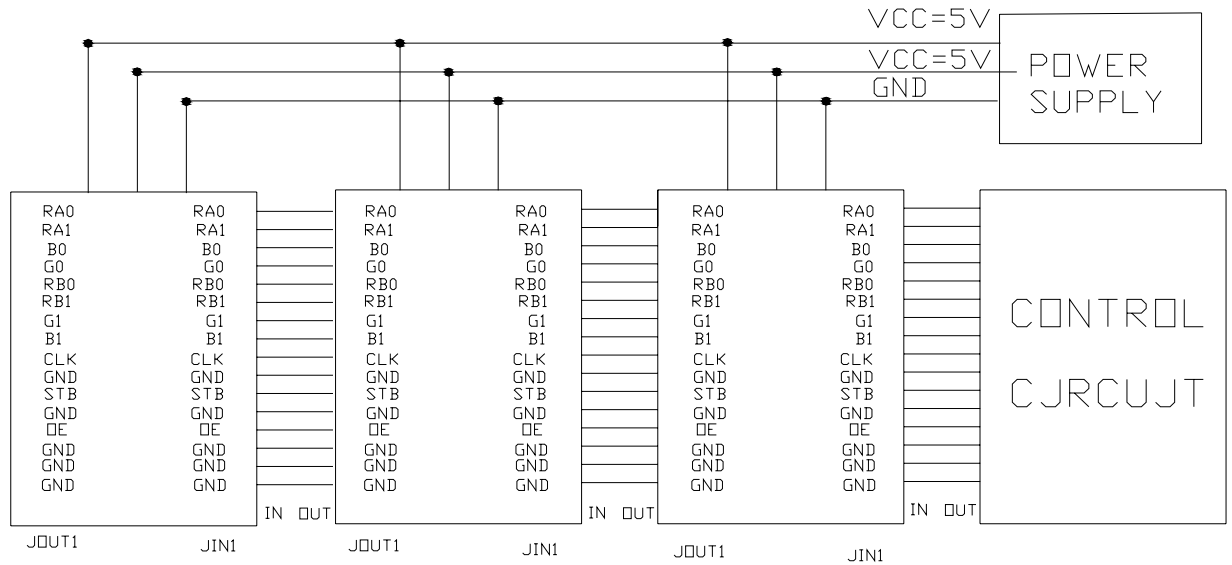
Ta=25°C

ITEM	SYMBOL	COND	MIN	TYP.	MAX	UNIT
Supply voltage(LOGIC)	Vcc	—		5		V
Supply voltage(LED)	Vdd	—		5		V
Supply current(LOGIC)	Icc	Vcc=5V	—	200		mA
Supply-current	RED	ILEDr	Lighting —all	10.24		A
	GREEN	ILEDg				
	BLUE	ILEDb				



7. OTHER ITEM

7-1. Connection example between products



## 8. INTERFACE

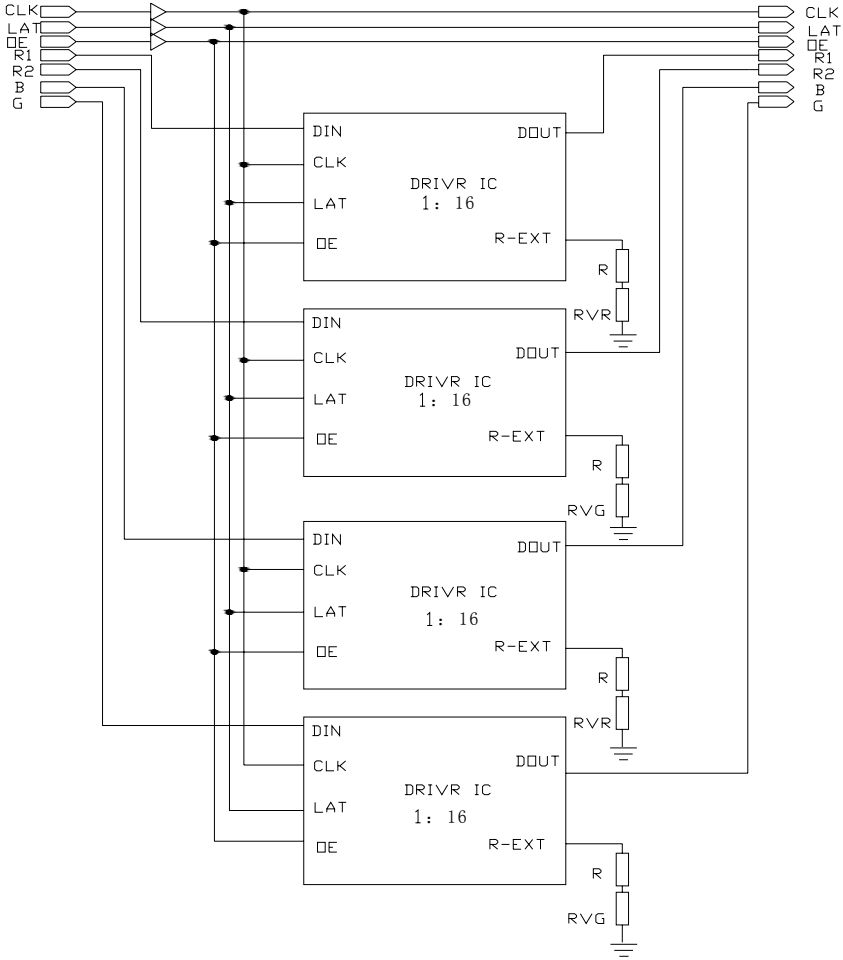
### 8-1.IN/OUT PUT connector pin number & signal function

PORT	Pin No.	SIGNAL	SIGNAL-FUNCTION
INPUT/ OUTPUT SIGNAL (IN)	1	RA0	RED DATA (UP 8 ROW)
	2	RA1	RED DATA (UP 8 ROW)
	3	G0	GREEN DATA (UP 8 ROW)
	4	B0	BLUE DATA (UP 8 ROW)
	5	RB0	RED DATA (DOWN 8 ROW)
	6	RB1	RED DATA (DOWN 8 ROW)
	7	G1	GREEN DATA (DOWN 8 ROW)
	8	B1	BLUE DATA (DOWN 8 ROW)
	9	CLK	SHIFT CLOCK
	10	GND	GROUND
	11	STB	DATA LATCH
	12	GND	GROUND
	13	OE	OUTPUT ENABLE
	14	GND	GROUND
	15	GND	GROUND
	16	GND	GROUND

### 8-2. Power connector pin number & signal function

NO	SIGNAL	LEVEL	FUNCTION	WIRE
1	VDD	5 (V)	POWER OF LED	RED
2	VCC	5 (V)	LOGIC	RED
3	GND	0 (V)	GROUND	BLACK
4	GND	0 (V)	GROUND	BLACK

**9. principle drawing**

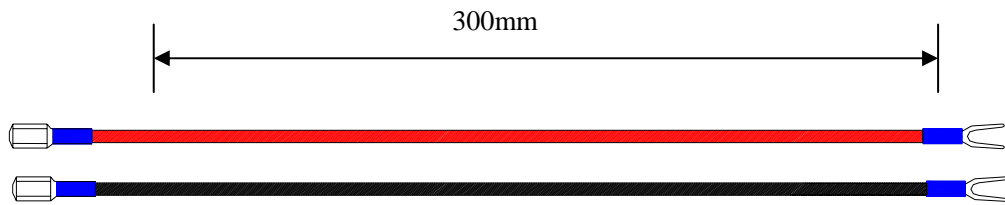


ROUT1 {1:16}	ROUT2 {1:16}	ROUT3 {1:16}	ROUT4 {1:16}	GOUT1 {1:16}
<b>LED ARRAY</b> (16×32)				GOUT2 {1:16}
				GOUT3 {1:16}
BOUT1 {1:16}	BOUT2 {1:16}	BOUT3 {1:16}	BOUT4 {1:16}	GOUT4 {1:16}

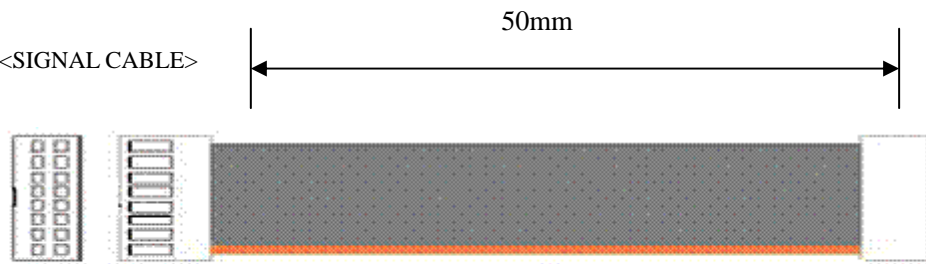
<b>MODEL NO</b>	<b>PAGE</b>
<b>GYX - XN20&lt;2R1G1B&gt;QD - 1</b>	<b>5/7</b>

## 10.CABLE SPEC

<POWER CABLE>



<SIGNAL CABLE>



PART NO.	STANDARD	VENDOR
FL01-14D-50mm	2.54mm PITCH 16 P WIRE (FLAT CABLE/50mm)	
Gu396-0418-300R	4mm PITCH 4 P WIRE	

<b>MODEL NO</b> GYX - XN20<2R1G1B>QD - 1	<b>PAGE</b> 6/7
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## 11.PART LIST

NO	PART LIST	QUAN.	TYPE	PART NAME	MAKER	NOTE
1	RED LED	256				
2	P/G LED	128				
3	BLUE LED	128				
4	PCB(Display)	1	2Layer/1.6t			320mm*160mm
5	DRIVE IC	32	SSOP-24	MBI5026C(GF)		
6	IC	2	SO-20	74AHC245D		
7	CONDENSER	1	DIP	470uF/16V		POWER
8	CONDENSER	1	DIP	1000uF/16V		POWER
9	CHIP SEAMIC CON.	14	0805	0.1 uF		DRIVE
10	CHIP SEAMIC CON.	1	0805	0.1 uF		POWER
11	CHIP RESISTOR	24	0805	820 $\phi$		
12	CHIP RESISTOR	2	0805	100 $\phi$		
13	CHIP RESISTOR	2	0805	1K $\phi$		
14	CHIP RESISTOR	8	0805	560 $\phi$		

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<b>MODEL NO</b> GYX - XN20<2R1G1B>QD - 1	<b>PAGE</b> 7/7
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## 12. INSTALLATION NOTICES

1) Please apply this modules at a safe surrounding against noise because the error or mis-operation may occur at fragile place of noise.

2) Check surely the power condition to operation test in order to prevent module damage which might be caused by the excessive power.

3) Modules should be set up within the guarantee limitation and especially kept away from salt dust, soot and SO<sub>2</sub> gas etc.

4) When there is no data transmission at operation test just turn power off immediately. Otherwise operating gets damaged.

5) Please apply this product under the range of guarantee, considering the sufficient radiation in case of the assembled multi-module.

6) V led is recommended the maximum of rating voltage for best result under the low temperature such as -15° C below.

7) Please check the insert direction when you attach SIGNAL CONNECTOR or link the power.

## 13.REFERENCES

1) Check SYSTEM weight before apply modules into housing.

2) Operation test or anti-static electricity need for the COMS attached in circuit board.

3) Sufficient power capability is necessary to deal with the excessive power which might be drastically caused depending on the condition of the on/off of unit.(peak current times 1.5 and higher)

4) power for logic or LED requires Switching Mode Supply.

5) Use power bus bar when connecting power. It helps power to keep from falling down..

6) Please don't change "switch was set as outgoing" The switch was set as out-going.

7) Any further question or trouble herein will be worked out mutually by customer and supplier through sales manager.

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