



## **BTQ Series**

### **BOE LED Display**

#### **Key Feature**

- High contrast ratio for great display performance
- Lightweight, easy to install and dismantle
- Single point, single lamp maintenance possible, low cost
- Low power consumption due to constant current LED drive

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# PRODUCT SPECIFICATION

# BOE

Model	Parameter	BTQ012	BTQ015	BTQ018	BTQ020	BTQ025	BTQ030	
Module	Pixel Pitch (mm)	1.25	1.538	1.86	2	2.5	3	
	Packing Technology	SMD 1010	SMD 1212	SMD 1515	SMD 1515	SMD 2121	SMD 2121	
	Lamp Line	Copper						
	Module Resolution (H x V, Per Module)	256 x 128	208 x 104	172 x 86	160 x 80	128 x 64	64 x 64	
	Module Dimension (mm)	320 x 160						192 x 192
	Module Weight (kg)	~ 0.4						~ 0.195
	Pixel Density (Pixel/m <sup>2</sup> )	640000	422500	288906	250000	160000	111111	
Cabinet	Module Composition	2 x 3						-
	Cabinet Resolution	512 x 384	416 x 312	348 x 258	320 x 240	256 x 192	-	
	Cabinet Dimension (mm)	640 x 480						-
	Weight (kg/m <sup>2</sup> )	8.2	9.5	9.5	9.5	9.5	-	
	Maintenance	Front						-
	Cabinet Material	Aluminum die casting						-
Optical Parameter	Single Dot Brightness Correction	Supported						
	Single Dot Colour Correction	Supported						
	Colour Temperature (K)	2000 - 15000 Adjustable						11000-14000
	Contrast Ratio	8000 : 1						5000 : 1
	Brightness of White Balance (Nits)	0-600						
	Horizontal/Vertical Viewing Angle	≥160° / ≥140°						
	Uniformity of Luminance (%)	≥ 95						
	Uniformity of Chromaticity (Cx , Cy)	± 0.003						
Electronic Part	Optimum Viewing Distance (m)	1.5	1.8	2.1	2.4	3	3.6	
	Max Power Consumption (W/m <sup>2</sup> )	320						
	Average Power Consumption (W/m <sup>2</sup> )	160						
	Power Supply (V)	4.2-5 DC						

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# PRODUCT SPECIFICATION

**BOE**

Model	Parameter	BTQ012	BTQ015	BTQ018	BTQ020	BTQ025	BTQ030
Processing Performance	Drive Mode (Scan)	1 / 64	1 / 52	1 / 43	1 / 40	1 / 32	1 / 32 1 / 64
	Refresh Rate (Hz)	3840				1920	3840
	Drive Mode	Constant-current Driving					
	Gray Scale (bit)	14 ~ 16					13
Operation Parameter	Operating Temperature (°C)	-10 - 40					
	Storage Temperature(°C)	-10 - 30					
	Operating Humidity (RH)	10% - 65%					
	Storage Humidity (RH)	10% - 60%					

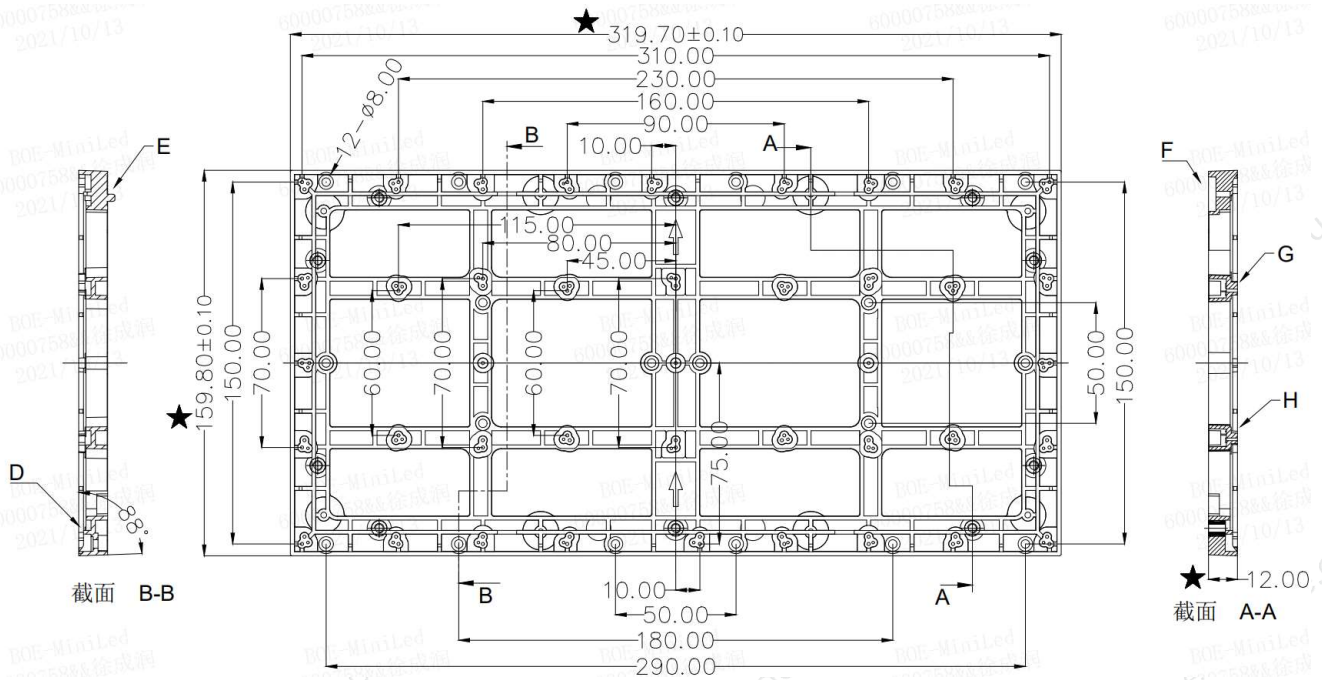
Product Picture

Model	Product Picture		Note
Front			The driver chip uses SSOP's constant current chip
Back			

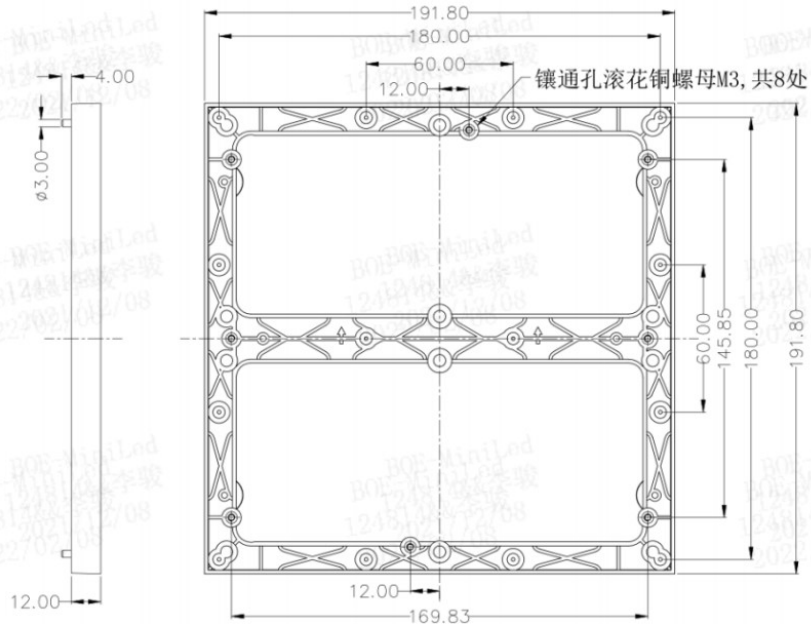
Interface definition

Model	Function	Signal	PIN	interface	PIN	Signal	Function	
BTQ015-030 HUB75	Red data signal	R1	1	1	●	2	G1	Green data signal
	Blue data signal	B1	3	3	●	4	GND	Power Ground
	Red data signal	R2	5	5	●	6	G2	Green data signal
	Blue data signal	B2	7	7	●	8	GND	Power Ground
	Line control signal	A	9	9	●	10	B	Line control signal
	Line control signal	C	11	11	●	12	N	None
	Clock signal	CLK	13	13	●	14	LAT	Latch signal
	ENABLA	OE	15	15	●	16	GND	Power Ground
BTQ012 HUB320	Red data signal	R1	3	3	●	4	G1	Green data signal
	Blue data signal	B1	5	5	●	6	GND	Power Ground
	Red data signal	R2	7	7	●	8	G2	Green data signal
	Blue data signal	B2	9	9	●	10	GND	Power Ground
	Red data signal	R3	11	11	●	12	G3	Green data signal
	Blue data signal	B3	13	13	●	14	GND	Power Ground
	Red data signal	R4	15	15	●	16	G4	Green data signal
	Blue data signal	B4	17	17	●	18	GND	Power Ground
	Line control signal	A	19	19	●	20	B	Line control signal
	Line control signal	C	21	21	●	22	D	Line control signal
	Line control signal	E	23	23	●	24	GND	Power Ground
	Clock signal	CLK	25	25	●	26	LAT	Latch signal
	ENABLA	OE	27	27	●	28	GND	Power Ground

Mounting hole location



BTQ012-BTQ025



BTQ030

**Note:** If there is a production box, please inform the office in advance and confirm the order product hole map, see CAD for details diagram.

All dimensions are in **mm**.

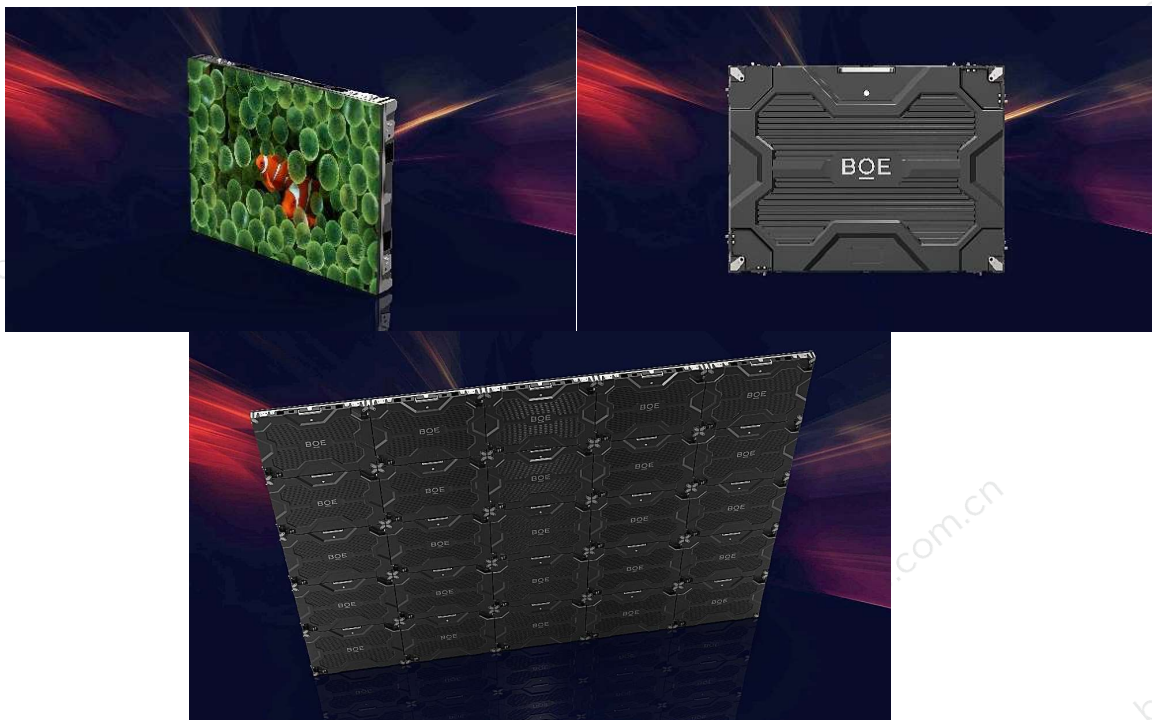
## Packing

BTQ012-BTQ025

Module 2-in-1 packaging, fixed by plastic corner protectors all around, then using pearl cotton with card slots to fix the module in the carton, the module is assembled in 2 layers, the wire is packed in cartons and placed inside the carton.



## Cabinet Picture



Notes

Project		Note
Environmental Considerations	Temperature requirements	Storage temperature range: -20°C-50°C, more than 50°C need to do cooling treatment. Operating temperature range: -30°C-60°C, if it works under other temperature range, need to install additional temperature control equipment. Unit board working lamp surface temperature: ≤ 60 °C, the temperature exceeds the standard need to install additional temperature control equipment.
	Humidity requirements	Storage humidity range: 10%RH-60%RH, humidity more than 60%RH need to do dehumidification treatment. Working humidity range: 15%RH-65%RH, humidity exceeds the standard need to use the environment dehumidification treatment before normal use.
	Storage overdue treatment	If the products were stored for more than one month, you need to go through 6 hours of aging before normal use. The aging method: full brightness setting 10%-1H, full brightness setting 30%-1H, full brightness setting 60%-2H, full brightness setting 80%-1H, full brightness setting 100%-1H (gradually increasing brightness aging).
	Dustproof requirement	Indoor products without protection level or IP30, the display should not be exposed to a dusty environment, such as studio decoration, renovation, etc., need special protection for the display. LED display cannot be installed during renovation.
	Corrosive gas protection	Corrosive gas in the air containing salt or acid gas environment, will cause the corrosion of electronic components, crystallization, current leakage and so on
	Anti-electromagnetic radiation	The display should not be placed in the environment of electromagnetic radiation, radio frequency radiation more than field strength 5V/m interference source
	Avoid strong light exposure	Strong light will affect the display effect and affect the life of the product, should avoid installation in the direction of direct sunlight for a long time.
Environmental Considerations 0	Keep away from water source	Indoor products with low protection level, water conductivity can make the circuit short-circuit that will cause the destruction of circuit devices, so it is necessary to stay away from water sources.
	Static electricity hazard, prevent lightning strike	The metal components of the screen body, the switch power supply shell and the box should be well grounded, and the grounding resistance should be ≤10Ω to prevent damage to the electronic devices in the humid environment and to avoid the leakage of electricity to the human body.
	Personal Injury	The display installation angle and height need to be appropriate. The sharp edges need to be packaged to prevent injury to the human body from the strong hard shell.
	Special environment	The use of LED display in special environments (1, seaside, swimming pools, baths, basements, tunnels; 2, within the chemical environment, sulfur environment, halogen environment; 3, sand, dusty environment; 4, strong ultraviolet environment; 5, strong electromagnetic field environment; 6, less than -20 degrees, more than +40 degrees environment), need to be used properly according to the product application environment.



Project		Note
Precautions for operation	Electrostatic protection	Installers must be equipped with electrostatic bracelets and electrostatic gloves, and various tools must be strictly grounded during the assembly process.
	Product batch number control	Different batches of products can not be installed on the same screen, otherwise the display will produce a color block (mosaic) phenomenon
	Product wiring	Unit board can not be directly connected to 220V, unit board power supply positive and negative can not be reversed
	Disassembly and transportation process	shall not fall, push, squeeze, press the unit board, so as not to damage the display
	Disassembly and maintenance of liquid protection	Disassembly operations can not have sweat or other liquids dripping onto the display, or you need use alcohol to clean the products drip position to prevent liquid corrosion to the product
	Installation torque control	Power supply wiring need to ensure that the terminal connector screws tightened to prevent loose connector position, resulting in high contact resistance caused by burning lines or product damage, M4 screw torque 6.0-8.0 Kgf.cm, M3 screw torque 4.0-6.0 Kgf.cm
Precautions for operation	Prohibit working with electricity	It is forbidden to assemble the unit board under electric condition, the unit board should be assembled on the wall under the disconnection of the main electric input, and it is not allowed to assemble with inserted power line and signal line
	Prohibit touching with electricity	It is forbidden for human beings to touch the LED display, so as to avoid the electrostatic generated by human friction through the LED lights and chips and other components
	Environment check	Display installation site needs to be configured with a temperature and humidity meter, timely monitoring of the environmental conditions around the screen, after heavy rain, should be timely check whether the display internal moisture, water droplets, moisture and other issues