XBT GT, GK, and GH Series of Panels

Introduction

The following presents the XBT GT touchscreen, XBT GK keypad, and XBT GH hand held series of human-machine interface (HMI) products. These products have an operating voltage of 24 Vdc. The products offered in this series have various features and benefits listed below:

- Screen size
- Screen resolution
- Screen technology and color
- Communication ports

XBT GT Part Numbers

The following table presents the different XBT GT products:

Part number	Screen size	Pixel resolution	Mono/Color	Screen technology	Video port	Ethernet port
XBT GT1105	9,6 cm (3.8 in.)	QVGA	Amber	STN	No	No
XBT GT1135	9,6 cm (3.8 in.)	QVGA	Amber	STN	No	Yes
XBT GT1335	9,6 cm (3.8 in.)	QVGA	Color	TFT	No	Yes
XBT GT2110	14,4 cm (5.7 in.)	QVGA	Blue Mode	STN	No	No
XBT GT2120	14,4 cm (5.7 in.)	QVGA	Monochrome	STN	No	No
XBT GT2130	14,4 cm (5.7 in.)	QVGA	Monochrome	STN	No	Yes
XBT GT2220	14,4 cm (5.7 in.)	QVGA	Color	STN	No	No
XBT GT2330	14,4 cm (5.7 in.)	QVGA	Color	TFT	No	Yes
XBT GT2430	14,4 cm (5.7 in.)	VGA	Color	TFT	No	Yes
XBT GT2930	14,4 cm (5.7 in.)	QVGA	Color	TFT	No	Yes
XBT GT4230	19,1 cm (7.5 in.)	VGA	Color	STN	No	Yes
XBT GT4330	19,1 cm (7.5 in.)	VGA	Color	TFT	No	Yes

Display Specifications

STN Displays

Specification	XBT GT1105 XBT GT1135	XBT GT2110	XBT GT2120 XBT GT2130 XBT GK2120	XBT GT2220	XBT GT4230	XBT GT5230
Type	Monochrome LCD	Monochrome (Blue mode) LCD	Monochrome (B&W) LCD	Color		
Resolution (pixels)	320 x 240				640x480	
Active Display Area W x H	76.7 x 57.5 mm (3.02 x 2.26 in.)	115.2 x 86.4 mm (4.54 x 3.40 in.)			153.7 x 115.8 mm (6.05 x 4.56 in.)	215.2 x 162.3 mm (8.43 x 6.39 in.)
Colors	8 levels of gray	16 gradations		4.096 colors		
Backlight (1)	LED Backlight (Color: Amber; Service life: 50,000 h. [half of original brightness]) (Color: Red; Service life:10,000 h. [half of original brightness])	CFL Backlight (Service life: 58,000 h. at 25°C and continuous operation [half of original brightness])		CFL Backlight (Service life: 75,000 h. at 25°C and continuous operation [half of original brightness])	CFL Backlight (Service life: 54,000 h. at 25°C and continuous operation [half of original brightness])	CFL Backlight (Service life: 54,000 h. at 25°C and continuous operation [half of original brightness])
Contrast Adjustment	8 levels of adjustment available via touch panel.					
Brightness Adjustment	8 levels of adjustment for XBT GT1005 available via touch panel.	8 levels of adjustment available via touch panel.				
System Embedded Language Fonts (2)	ASCII: (Code page 850) Alphanumeric (including European characters) Chinese: (GB2312-80 codes) simplified Chinese fonts Japanese: ANK 158, Kanji: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) Korean: (KSC5601 - 1992 codes) Hangul fonts Taiwanese: (Big 5 codes) traditional Chinese fonts					
Character Sizes (2)	8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixels fonts					
Font Sizes	Width can be expanded 1 to 8 times. Height can be expanded 1/2 and 1 to 8 times.					
8 x 8 pixels	40 Char. per row x 30 rows				80 Char. per row x 60 rows	

Specification	XBT GT1105 XBT GT1135	XBT GT2110	XBT GT2120 XBT GT2130 XBT GK2120	XBT GT2220	XBT GT4230	XBT GT5230
8 x 16 pixels	40 Char. per row x 15 rows				80 Char. per row x 30 rows	
16 x 16 pixels	20 Char. per row x 15 rows				40 Char. per row x 30 rows	
32 x 32 pixels	10 Char. per row x 7 rows				20 Char. per row x 15 rows	

NOTE: (1) Among backlight units there may be slight variations in illumination color, however, this does not affect the performance or quality of the unit.
(2) The display font will differ depending on which (language) character, or which size you select. Also, if Vijeo Designer 4.3 or later software is used, additional high quality fonts are available with 16 x 16 or larger characters.

TFT Displays

The following table describes the specification parameters of XBT GT 1335, XBT GT 2330, XBT GK 2330, XBT GH 2460, XBT GT 2430, XBT GH 2460 and XBT GT 2930.

Specification	XBT GT 1335	XBT GT 2330 XBT GK 2330 XBT GH 2460	XBT GT 2430	XBT GH 2460	XBT GT 2930
Type	TFT Color LCD				
Resolution (pixels)	320 x 240		640 x 480		320 x 240
Active Display Area W x H	76.7 x 57.5 mm (3.02 x 2.26 in.)	115.2 x 86.4 mm (4.54 x 3.40 in.)			117.2 x 88.4 mm (4.61 x 3.48 in.)
Colors	256 colors	65,536 colors			
Backlight (1)	CFL Backlight (Service life: 50,000 h. at 25°C and continuous operation [half of original brightness]) XBT GT2430, XBT GH2460: White LED Backlight (Service life: 50,000 hours or more at 25°C and continuous operation [period until backlight brightness decreases to 50% or backlight starts to flicker])				
Contrast Adjustment	8 levels of adjustment available via touch panel	Not available.			
Brightness Adjustment	8 levels of adjustment available via touch panel. XBT GH: 16 levels of adjustment available via touch panel.				

Display Viewing Angle and Brightness

Model	Viewing angle										Brightness	
Schneider	Upper		Lower		Left		Right		Unit	Contrast (CR)	Actual Products	
	Min	Typ	Min	Typ	Min	Typ	Min	Typ			Typ	Unit
XBT GT1105	20	-	30	-	40	-	40	-	degrees	CR≥2	87/51	cd/m2
XBT GT1135												
XBT GT1335												
XBT GT2110	20	-	40	-	45	-	45	-	degrees	CR≥2	216	cd/m2
XBT GT2120												
XBT GT2130												
XBT GT2220	-	65	-	70	-	55	-	55	degrees	CR≥2	298	cd/m2
XBT GT2330	60	65	35	40	60	65	60	65	degrees	CR≥5	422	cd/m2
XBT GT2430	-	80	-	70	-	80	-	80	degrees	CR≥5	400	cd/m2
XBT GT2930	-	70	-	50	-	70	-	70	degrees	CR≥5	1000	cd/m2
XBT GT4230	-	20	-	40	-	40	-	40	degrees	CR≥2	167	cd/m2
XBT GT4330	-	50	-	70	-	70	-	70	degrees	CR≥5	213	cd/m2
XBT GT4340												
XBT GT5230	-	20	-	35	-	45	-	45	degrees	CR≥2	172	cd/m2
XBT GT5330	35	40	55	70	60	70	60	70	degrees	CR≥10	311	cd/m2
XBT GT5340												
XBT GT5430	35	50	55	60	60	70	60	70			390	cd/m2
XBT GT6330	30	50	40	70	45	70	45	70	degrees	CR≥10	170	cd/m2
XBT GT6340												
XBT GT7340	60	75	50	55	60	80	60	80	degrees	CR≥2	220	cd/m2
XBT GK2120	20	-	40	-	45	-	45	-	degrees	CR≥2	216	cd/m2
XBT GK2330	60	65	35	40	60	65	60	65	degrees	CR≥5	422	cd/m2
XBT GK5330	35	40	55	70	60	70	60	70	degrees	CR≥10	311	cd/m2
XBT GH2460	-	80	-	70	-	80	-	80	degrees	CR≥5	189	cd/m2

Memory, Clock, and Touch Panel

Memory

The following table describes the memory parameters of XBT GT1105, XBT GT1135, XBT GT1335, XBT GT2110, XBT GT2120, XBT GT2130, XBT GT2220, XBT GT2330, XBT GT2930, XBT GK2120 and XBT GK2330.

Memory	XBT GT1105 XBT GT1135 XBT GT1335	XBT GT2110	XBT GT2120 XBT GT2130 XBT GT2220 XBT GT2330 XBT GT2930 XBT GK2120 XBT GK2330
Application Flash EPROM	32 MB	16 MB	16 MB
Data Backup SRAM uses a lithium battery (1)	512 KB	128 KB	512 KB
Application run DRAM	16 MB	32 MB	32 MB
Legend: (1) A lithium battery life is: ● 10 years when the battery's ambient temperature is ≤ 40 °C (104 °F). ● 10 years when the unit's ambient temperature is ≤ 25 °C (77 °F). When used for backup (without main power): ● Approximately 60 days, with a fully charged battery. ● Approximately 6 days, with a 10% charged battery.			

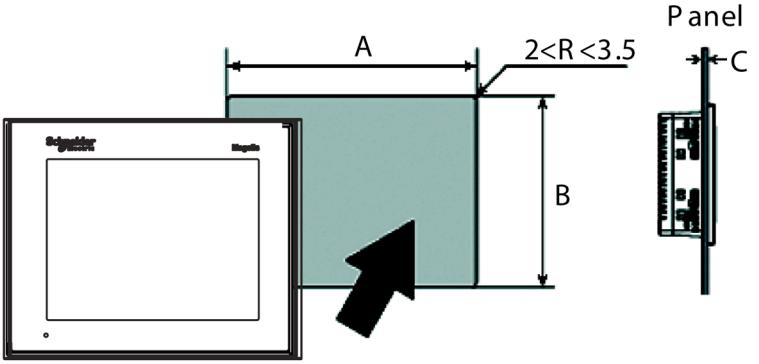
The following table describes the memory parameters of XBT GT2430, XBT GT4230, XBT GT4330, XBT GT5230, XBT GT5330, XBT GT5430, XBT GT6330, XBT GK5330, XBT GT4340, XBT GT5340, XBT GT6340, XBT GT7340 and XBT GH2460.

Memory	XBT GT2430	XBT GT4230 XBT GT4330 XBT GT5230 XBT GT5330 XBT GT5430 XBT GT6330 XBT GK5330	XBT GT4340 XBT GT5340 XBT GT6340 XBT GT7340 XBT GH2460
Application Flash EPROM	32 MB	32 MB	32 MB
Data Backup SRAM uses a lithium battery (1)	512 KB	512 KB	512 KB
Application run DRAM	64 MB	32 MB	64 MB

Panel Cut-out Dimension

Inserting a XBT GT/XBT GK

Create a panel cut-out and insert the unit into the panel from the front. The following illustration shows the panel cut-out for a XBT GT/XBT GK unit (example from the XBT GT1005series).



Dimensions

The following table shows the panel cut-out dimensions for each unit:

Unit	A	B	C Screw Installation Fastener	C Spring Clips
XBT GT1105 XBT GT1135 XBT GT1335	$118.5^{+1/0}$ mm ($4.67^{+0.04/0}$ in.)	$92.5^{+1/0}$ mm ($3.64^{+0.04/0}$ in.)	1.6...5 mm (0.06...0.20 in.)	1.5...6 mm (0.06...0.24 in.)
XBT GT2110 XBT GT2120 XBT GT2130 XBT GT2220 XBT GT2330 XBT GT2430 XBT GT2930	$156^{+1/0}$ mm ($6.14^{+0.04/0}$ in.)	$123.5^{+1/0}$ mm ($4.86^{+0.04/0}$ in.)	1.6...5 mm (0.06...0.20 in.)	1.5...6 mm (0.06...0.24 in.)
XBT GT4230 XBT GT4330 XBT GT4340	$204.5^{+1/0}$ mm ($8.05^{+0.04/0}$ in.)	$159.5^{+1/0}$ mm ($6.28^{+0.04/0}$ in.)	1.6...10 mm (0.06...0.39 in.)	1.5...6 mm (0.06...0.24 in.)
XBT GT5230	$301.5^{+1/0}$ mm ($11.87^{+0.04/0}$ in.)	$227.5^{+1/0}$ mm ($8.96^{+0.04/0}$ in.)	1.6...10 mm (0.06...0.39 in.)	1.5...6 mm (0.06...0.24 in.)
XBT GT5330 XBT GT5340 XBT GT5430	$259^{+1/0}$ mm ($10.20^{+0.04/0}$ in.)	$201^{+1/0}$ mm ($7.91^{+0.04/0}$ in.)	1.6...10 mm 0.06...0.39 in.	1.5...6 mm (0.06...0.24 in.)