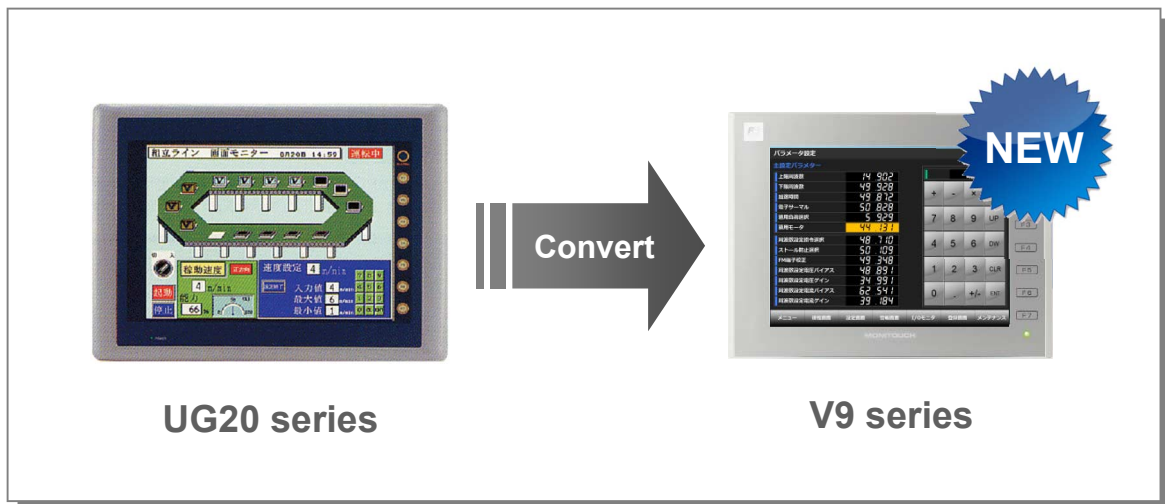


MONITOUCH

V9 Replacement Guidance [UG20 series]

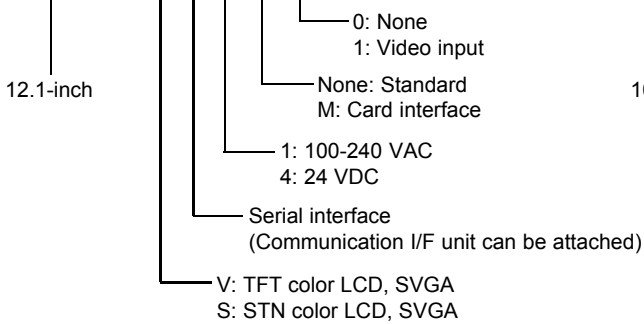


- UG20 series models

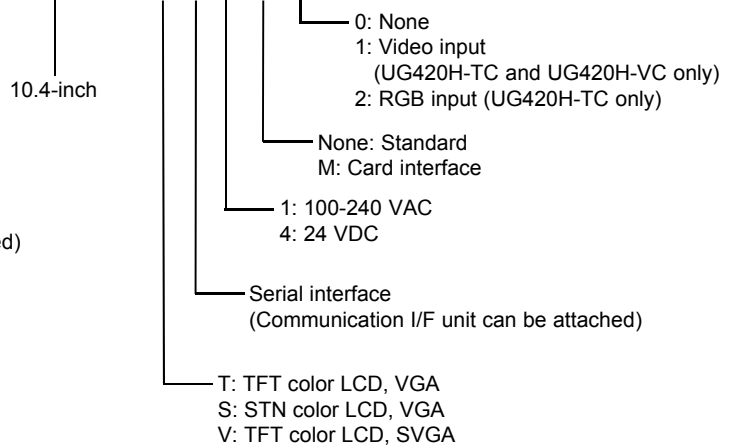
The UG20 series models are listed below.

Check the recommended models for replacement according to the UG20 series model currently in use.

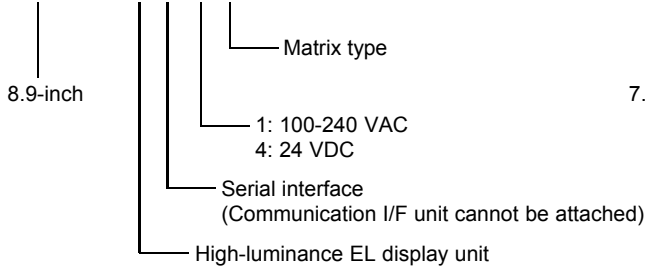
UG520H-□C□□□



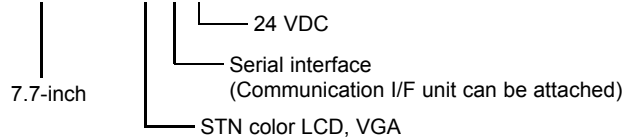
UG420H-□C□□□



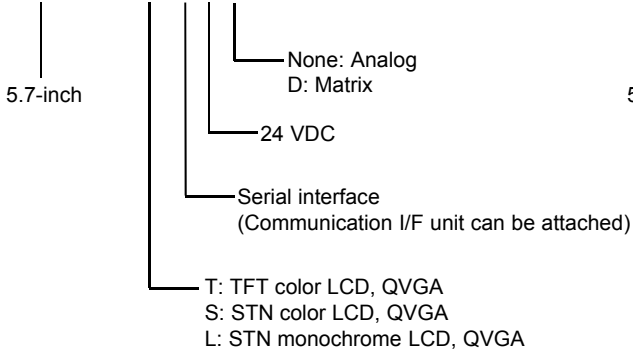
UG420H-EC□D



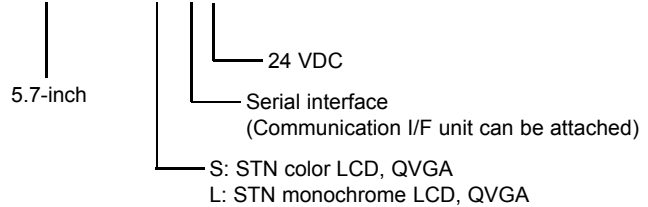
UG320H-SC4



UG221H-□C4□

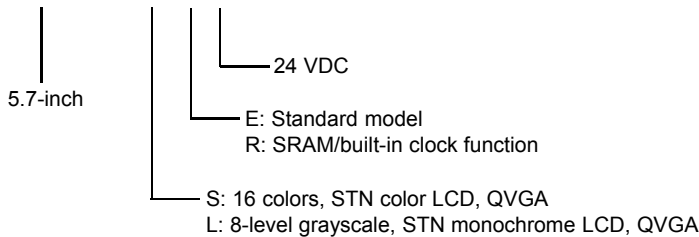


UG220H-□C4




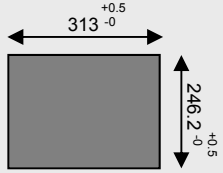
Simple POD


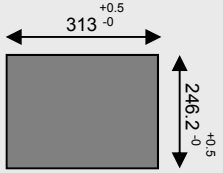
UG221H-□□4



- Recommended models for replacement of UG520H series

- Without video input

UG520H-VC series					
		UG520H-VC1 UG520H-VC1M	UG520H-VC4 UG520H-VC4M	UG520H-SC1 UG520H-SC1M	UG520H-SC4 UG520H-SC4M
MONITOUCH	- Front view				
	- Panel cut-out dimensions (mm)				
Display device	TFT color		STN color		
Colors	128 colors				
Resolution	800 × 600 dots				
Touch switch	Analog				
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485			
	Network	Communication unit: UG03I-x			
Storage device	Dedicated memory card *1				
Power supply	85 to 265 VAC	24 VDC	85 to 265 VAC	24 VDC	


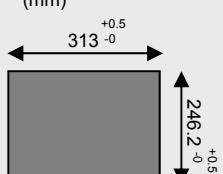
Recommended models for replacement		
V9120iS	V9120iSD	
- Front view		
- Panel cut-out dimensions (mm)		
TFT color		
16.77 million colors *2		
800 × 600 dots		
Analog		
D-sub 9-pin: RS-232C / RS-422/485 *3 Modular jack 8-pin (2 ports): RS-232C / RS-485		
Communication unit: CUR-xx		
SD/SDHC card, USB flash drive		
100 to 240 VAC		24 VDC


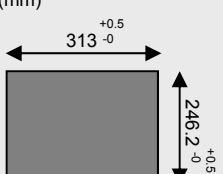
*1 UG520H-VCxM/UG520H-SCxM or Hako Electronics' optional unit "UG00P-MR"

*2 Only for "picture" images, 3D parts, video images, and RGB display (when "GUR-10" or "GUR-11" is used). The other contents are displayed in 65,536 colors.

*3 When using the existing cable, use Hako Electronics' conversion cable "D9-D25". When using Hako Electronics' optional unit "UG00P-TC", use "TC-D9".

- With video input

UG520H-VC series			
		UG520H-VC11 UG520H-VC1M1	UG520H-VC41 UG520H-VC4M1
MONITOUCH	- Front view		
	- Panel cut-out dimensions (mm)		
Display device	TFT color		
Colors	128 colors		
Resolution	800 × 600 dots		
Touch switch	Analog		
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485	
	Network	Communication unit: UG03I-x	
Video	4CH		
Storage device	Dedicated memory card *1		
Power supply	85 to 265 VAC	24 VDC	

Recommended models for replacement		
V9120iS	V9120iSD	
- Front view		
- Panel cut-out dimensions (mm)		
TFT color		
16.77 million colors *2		
800 × 600 dots		
Analog		
D-sub 9-pin: RS-232C / RS-422/485 *3 Modular jack 8-pin (2 ports): RS-232C / RS-485		
Communication unit: CUR-xx		
Optional unit: GUR-00 (4CH)		
SD/SDHC card, USB flash drive		
100 to 240 VAC		24 VDC


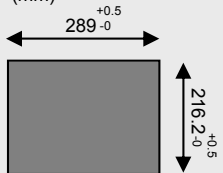
*1 UG520H-VCxMx or Hako Electronics' optional unit "UG00P-MR"


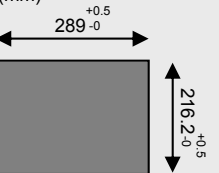
*2 Only for "picture" images, 3D parts, video images, and RGB display (when "GUR-10" or "GUR-11" is used). The other contents are displayed in 65,536 colors.

*3 When using the existing cable, use Hako Electronics' conversion cable "D9-D25". When using Hako Electronics' optional unit "UG00P-TC", use "TC-D9".

- Recommended models for replacement of UG420H-VC series

- Without video input

		UG420H-VC series	
		UG420H-VC1 UG420H-VC1M	UG420H-VC4 UG420H-VC4M
MONITOUCH	- Front view		
	- Panel cut-out dimensions (mm)		
Display device	TFT color		
Colors	128 colors		
Resolution	800 × 600 dots		
Touch switch	Analog		
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485	
	Network	Communication unit: UG03I-x	
Storage device	Dedicated memory card *1		
Power supply	85 to 265 VAC	24 VDC	


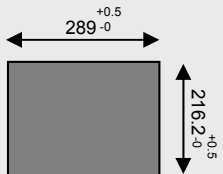
		Recommended models for replacement	
		V9100iS	V9100iSD
	- Front view		
	- Panel cut-out dimensions (mm)		
Display device	TFT color		
Colors	16.77 million colors *2		
Resolution	800 × 600 dots		
Touch switch	Analog		
Comm. I/F	D-sub 9-pin: RS-232C / RS-422/485 *3 Modular jack 8-pin (2 ports): RS-232C / RS-485		
Storage device	Communication unit: CUR-xx SD/SDHC card, USB flash drive		
Power supply	100 to 240 VAC	24 VDC	


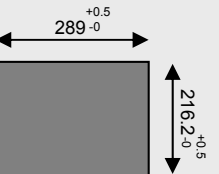
*1 UG420H-VCxM or Hako Electronics' optional unit "UG00P-MR"

*2 Only for "picture" images, 3D parts, video images, and RGB display (when "GUR-10" or "GUR-11" is used). The other contents are displayed in 65,536 colors.

*3 When using the existing cable, use Hako Electronics' conversion cable "D9-D25". When using Hako Electronics' optional unit "UG00P-TC", use "TC-D9".

- With video input

		UG420H-VC series	
		UG420H-VC11 UG420H-VC1M1	UG420H-VC41 UG420H-VC4M1
MONITOUCH	- Front view		
	- Panel cut-out dimensions (mm)		
Display device	TFT color		
Colors	128 colors		
Resolution	800 × 600 dots		
Touch switch	Analog		
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485	
	Network	Communication unit: UG03I-x	
Video	4CH		
Storage device	Dedicated memory card *1		
Power supply	85 to 265 VAC	24 VDC	

		Recommended models for replacement	
		V9100iS	V9100iSD
	- Front view		
	- Panel cut-out dimensions (mm)		
Display device	TFT color		
Colors	16.77 million colors *2		
Resolution	800 × 600 dots		
Touch switch	Analog		
Comm. I/F	D-sub 9-pin: RS-232C / RS-422/485 *3 Modular jack 8-pin (2 ports): RS-232C / RS-485		
Storage device	Communication unit: CUR-xx Optional unit: GUR-00 (4CH) SD/SDHC card, USB flash drive		
Power supply	100 to 240 VAC	24 VDC	

*1 UG420H-VCxMx or Hako Electronics' optional unit "UG00P-MR"

*2 Only for "picture" images, 3D parts, video images, and RGB display (when "GUR-10" or "GUR-11" is used). The other contents are displayed in 65,536 colors.

*3 When using the existing cable, use Hako Electronics' conversion cable "D9-D25". When using Hako Electronics' optional unit "UG00P-TC", use "TC-D9".

- Recommended models for replacement of UG420H-TC/UG420H-SC series

- Without video input/RGB input

UG420H-TC/UG420H-SC series					
		UG420H-TC1 UG420H-TC1M	UG420H-TC4 UG420H-TC4M	UG420H-SC1 UG420H-SC1M	UG420H-SC4 UG420H-SC4M
MONITOUCH	- Front view				
	- Panel cut-out dimensions (mm)				
Display device	TFT color		STN color		
Colors	128 colors				
Resolution	640 × 480 dots				
Touch switch	Analog				
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485			
	Network	Communication unit: UG03I-x			
Storage device	Dedicated memory card *1				
Power supply	85 to 265 VAC	24 VDC	85 to 265 VAC	24 VDC	

Recommended models for replacement		
V9100iC	V9100iCD	
- Front view		
- Panel cut-out dimensions (mm)		
Display device	TFT color	
Colors	16.77 million colors *2	
Resolution	640 × 480 dots	
Touch switch	Analog	
Comm. I/F	D-sub 9-pin: RS-232C / RS-422/485 *3 Modular jack 8-pin (2 ports): RS-232C / RS-485	
	Communication unit: CUR-xx	
Storage device	SD/SDHC card, USB flash drive	
Power supply	100 to 240 VAC	24 VDC

*1 UG420H-TCxM/UG420H-SCxM or Hakko Electronics' optional unit "UG00P-MR"

*2 Only for "picture" images and 3D parts. The other contents are displayed in 65,536 colors.

*3 When using the existing cable, use Hakko Electronics' conversion cable "D9-D25". When using Hakko Electronics' optional unit "UG00P-TC", use "TC-D9".

- With video input/RGB input

UG420H-TC series				
		UG420H-TC11 UG420H-TC1M1	UG420H-TC41 UG420H-TC4M1	UG420H-TC12 UG420H-TC1M2
MONITOUCH	- Front view			
	- Panel cut-out dimensions (mm)			
Display device	TFT color			
Colors	128 colors			
Resolution	640 × 480 dots			
Touch switch	Analog			
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485		
	Network	Communication unit: UG03I-x		
Video	4CH		-	
RGB input	-		1CH	
Storage device	Dedicated memory card *1			
Power supply	85 to 265 VAC	24 VDC	85 to 265 VAC	

Recommended models for replacement		
V9100iS	V9100iSD	
- Front view		
- Panel cut-out dimensions (mm)		
Display device	TFT color	
Colors	16.77 million colors *2	
Resolution	800 × 600 dots *3	
Touch switch	Analog	
Comm. I/F	D-sub 9-pin: RS-232C / RS-422/485 *4 Modular jack 8-pin (2 ports): RS-232C / RS-485	
	Communication unit: CUR-xx	
	Optional unit: GUR-00 (4CH)	
	Optional unit: GUR-01 (1CH)	
Storage device	SD/SDHC card, USB flash drive	
Power supply	100 to 240 VAC	24 VDC


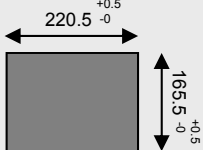
*1 UG420H-TCxMx or Hakko Electronics' optional unit "UG00P-MR"


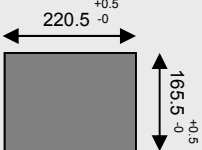
*2 Only for "picture" images, 3D parts, video images, and RGB display (when "GUR-10" or "GUR-11" is used). The other contents are displayed in 65,536 colors.

*3 The resolution specification is SVGA. Use the automatic resizing function when changing the MONITOUCH model setting in the screen program.

*4 When using the existing cable, use Hakko Electronics' conversion cable "D9-D25". When using Hakko Electronics' optional unit "UG00P-TC", use "TC-D9".

- Recommended models for replacement of UG320H-SC4

		UG320H-SC4	
		UG320H-SC4	
MONITOUCH	- Front view		
	- Panel cut-out dimensions (mm)		
Display device	STN color		
Colors	128 colors		
Resolution	640 × 480 dots		
Touch switch	Analog		
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485	
	Network	Communication unit: UG03I-x	
Storage device	Dedicated memory card *1		
Power supply	24 VDC		


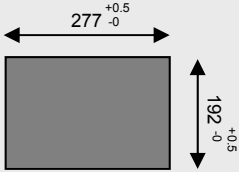
		Recommended models for replacement	
		V9080iCD	
	- Front view		
	- Panel cut-out dimensions (mm)		
		TFT color	
		16.77 million colors *2	
		640 × 480 dots	
		Analog	
		D-sub 9-pin: RS-232C / RS-422/485 *3 Modular jack 8-pin (2 ports): RS-232C / RS-485	
		Communication unit: CUR-xx	
		SD/SDHC card, USB flash drive	
		24 VDC	


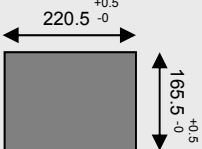
*1 Hako Electronics' optional unit "UG00P-MR"

*2 Only for "picture" images and 3D parts. The other contents are displayed in 65,536 colors.

*3 When using the existing cable, use Hako Electronics' conversion cable "D9-D25". When using Hako Electronics' optional unit "UG00P-TC", use "TC-D9".

- Recommended models for replacement of UG420H-EC

		UG420H-EC	
		UG420H-EC1D	UG420H-EC4D
MONITOUCH	- Front view		
	- Panel cut-out dimensions (mm)		
Display device	EL / high-luminance EL		
Colors	2 colors		
Resolution	640 × 400 dots		
Touch switch	Matrix		
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485	
	Network		
Storage device	Dedicated memory card *1		
Power supply	100 to 240 VAC	24 VDC	

		Recommended models for replacement	
		V9080iCD	
	- Front view		
	- Panel cut-out dimensions (mm) *2		
		TFT color	
		16.77 million colors *3	
		640 × 480 dots	
		Analog *4	
		D-sub 9-pin: RS-232C / RS-422/485 *5 Modular jack 8-pin (2 ports): RS-232C / RS-485	
		SD/SDHC card, USB flash drive	
		24 VDC *6	

*1 Hako Electronics' optional unit "UG00P-MR"

*2 Use Hako Electronics' mounting panel adaptor "PAD-V608-01".


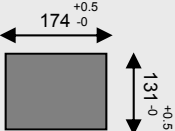
*3 Only for "picture" images and 3D parts. The other contents are displayed in 65,536 colors. Color settings compatible with GD-80 are available by setting [Color Batch Change] on V-SFT.


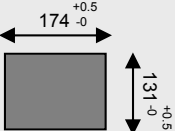
*4 Two points on the screen cannot be pressed simultaneously. For two-point pressing, use a switch on the screen and a function switch.

*5 When using the existing cable, use Hako Electronics' conversion cable "D9-D25". When using a terminal block, use "TC-D9".

*6 When replacing an AC power type model, use Hako Electronics' AC power unit "V9080C-PW".

- Recommended models for replacement of UG221H series (excluding Simple POD)

		UG221H series		
		UG221H-TC4 UG221H-TC4D	UG221H-SC4 UG221H-SC4D	UG221H-LC4 UG221H-LC4D
MONITOUCH	- Front view			
	- Panel cut-out dimensions (mm)			
Display device	TFT color	STN color	STN monochrome	
Colors	16 colors		8-level grayscale	
Resolution	320 × 240 dots			
Touch switch	Analog / matrix *1			
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-422/485		
	Network	Communication unit: UG03I-x		
Storage device	Dedicated memory card *2			
Power supply	24 VDC			

		Recommended models for replacement	
		V9060iTD	
	- Front view		
	- Panel cut-out dimensions (mm)		
		TFT color	
		260 thousand colors *3	
		640 × 480 dots *4	
		Analog *5	
		D-sub 9-pin (with "DUR-00" attached): RS-232C / RS-422/485 *6 Modular jack 8-pin (2 ports): RS-232C / RS-422/485 *7	
		Communication unit: CUR-xx	
		SD/SDHC card, USB flash drive	
		24 VDC	

*1 UG221H-TC4D, UG221H-SC4D, UG221H-LC4D: Matrix

*2 Hako Electronics' optional unit "UG00P-MR"

*3 Only for "picture" images and 3D parts. The other contents are displayed in 65,536 colors.

*4 The resolution specification is VGA. Use the automatic resizing function when changing the MONITOUCH model setting in the screen program.


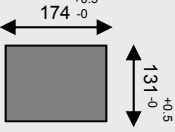
*5 Two points on the screen cannot be pressed simultaneously. For two-point pressing, use a switch on the screen and a function switch.


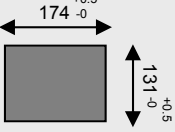
*6 When using the existing cable with "DUR-00" attached, use Hako Electronics' conversion cable "D9-D25". When using Hako Electronics' optional unit "UG00P-TC", use "TC-D9".

When "DUR-00" is not attached (except when connecting a Mitsubishi A series CPU), use Hako Electronics' conversion cable "MJ2-PLC". When connecting with a Mitsubishi A series CPU, use "V706-ACPU".

*7 The MJ2 port can be used for connection via RS-422 (4-wire connection).

- Recommended models for replacement of UG220H series

		UG220H series	
		UG220H-SC4	UG220H-LC4
MONITOUCH	- Front view		
	- Panel cut-out dimensions (mm)		
Display device	STN color	STN monochrome	
Colors	16 colors	8-level grayscale	
Resolution	320 × 240 dots		
Touch switch	Analog		
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (2 ports): RS-232C / RS-485	
	Network	Communication unit: UG02I-x	
Storage device	Dedicated memory card *1		
Power supply	24 VDC		

		Recommended models for replacement	
		V9060iTD	
	- Front view		
	- Panel cut-out dimensions (mm)		
		TFT color	
		260 thousand colors *2	
		640 × 480 dots *3	
		Analog	
		D-sub 9-pin (with "DUR-00" attached): RS-232C / RS-422/485 *4 Modular jack 8-pin (2 ports): RS-232C / RS-422/485 *5	
		Communication unit: CUR-xx	
		SD/SDHC card, USB flash drive	
		24 VDC	

*1 Hako Electronics' optional unit "UG00P-MR"

*2 Only for "picture" images and 3D parts. The other contents are displayed in 65,536 colors.


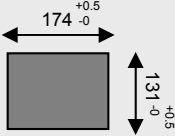
*3 The resolution specification is VGA. Use the automatic resizing function when changing the MONITOUCH model setting in the screen program.

*4 When using the existing cable with "DUR-00" attached, use Hako Electronics' conversion cable "D9-D25". When using Hako Electronics' optional unit "UG00P-TC", use "TC-D9".


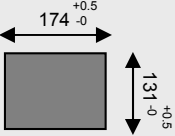
When "DUR-00" is not attached (except when connecting a Mitsubishi A series CPU), use Hako Electronics' conversion cable "MJ2-PLC". When connecting with a Mitsubishi A series CPU, use "V706-ACPU".

*5 The MJ2 port can be used for connection via RS-422 (4-wire connection).

- Recommended models for replacement of Simple POD UG221H series

		UG221H series	
		UG221H-SR4	UG221H-LR4
MONITOUCH	- Front view		
	- Panel cut-out dimensions (mm)		
Display device		STN color	STN monochrome
Colors		16 colors	8-level grayscale
Resolution		320 × 240 dots	
Touch switch		Analog	
Comm. I/F	Serial	D-sub 25-pin: RS-232C / RS-422/485 Modular jack 8-pin (1 port): RS-232C / RS-422/485	
Storage device		Dedicated memory card *1	
Power supply		24 VDC	



		Recommended models for replacement	
		V9060ITD	
	- Front view		
	- Panel cut-out dimensions (mm)		
		TFT color	
		260 thousand colors *2	
		640 × 480 dots *3	
		Analog	
		D-sub 9-pin (with "DUR-00" attached): RS-232C / RS-422/485 *4 Modular jack 8-pin (2 ports): RS-232C / RS-422/485 *5	
		SD/SDHC card, USB flash drive	
		24 VDC	

*1 Hako Electronics' optional unit "UG00P-MR"

*2 Only for "picture" images and 3D parts. The other contents are displayed in 65,536 colors.

*3 The resolution specification is VGA. Use the automatic resizing function when changing the MONITOUCH model setting in the screen program.

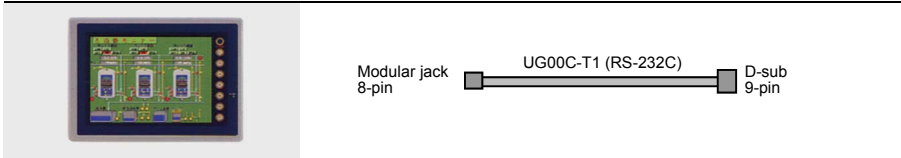
*4 When using the existing cable with "DUR-00" attached, use Hako Electronics' conversion cable "D9-D25". When using Hako Electronics' optional unit "UG00P-TC", use "TC-D9".

When "DUR-00" is not attached (except when connecting a Mitsubishi A series CPU), use Hako Electronics' conversion cable "MJ2-PLC". When connecting with a Mitsubishi A series CPU, use "V706-ACPU".

*5 The MJ2 port can be used for connection via RS-422 (4-wire connection).

- Screen program transfer

- UG20 series



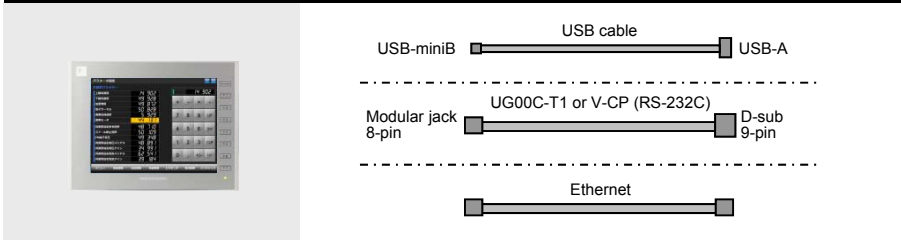
[Screen configuration software]

V-SFT-5 (Ver. 5)
 Windows 98SE / NT4.0 / Me / 2000 /
 XP / XP 64 Edition / Vista (32bit, 64bit) /
 7 (32bit, 64bit) / 8 (32bit, 64bit) /
 8.1 (32bit, 64bit) / 10 (32bit, 64bit)

* Screen programs can also be transferred via Ethernet (when a communication unit "UG03I-E" or "CU-03-3" is used).



- V9 series



[Screen configuration software]

V-SFT-6 (Ver. 6)
 Windows XP / XP 64 Edition /
 Vista (32bit, 64bit) / 7 (32bit, 64bit) /
 8 (32bit, 64bit) / 8.1 (32bit, 64bit) /
 10 (32bit, 64bit)

* Screen programs can also be transferred by using an SD card or USB flash drive.

* The LAN port of the V9 unit is compatible with Auto-MDIX. Both straight and cross cables are usable in either presence or absence of a hub.

- Screen program conversion

The UG20 series can be replaced with the V9 series by converting the UG20 series screen program using V-SFT-6 (V series screen configuration software). However, note that 100% compatibility cannot be maintained and some functions may be limited or may not be used after replacement.

For details, refer to the V9 Series File Conversion Manual (UG Series).

* The indicated recommended model for replacement can be used with minimal restrictions. Please note that other models not described here can also be used; make a selection according to your system requirements.

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