Basic HMI + Control: STC6000 Series

5.7"
640 x 480 pixels

STC-6300TA
Model: PFXSTC6300TADDKE
Model: PFXSTC6300TADDCE

■ Model Number Configuration

PFXSTC6300T A D **
 (1)   (2) (3) (4) (5)

(1) Size		(2) Resolution		(3) Touch Panel		(4) Power Supply		(5) Available software and others	
3	5"	T	TFT	A	Analog	D	DC	DKE	Digital output sink type, GP-Pro EX
								DCE	Digital output source type, GP-Pro EX

■ Display Specifications

Model Name	STC-6300TA	
Model No.	PFXSTC6300TADDKE	PFXSTC6300TADDCE
Display Type	TFT Color LCD	
Display Size	5.7"	
Resolution	640 x 480 pixels	
Effective Display Area	115.2 x 86.4 mm (4.54 x 3.40 in)	
Display Colors	262,144 colors For details about display colors, refer to the manual of your screen editing software.	
Backlight	White LED (Not user replaceable. When replacement is required, contact customer support.)	
Backlight Service Life	50,000 hours or more (continuous operation at 25 °C [77 °F] before backlight brightness decreases to 25%)	
Brightness Control	16 levels (Adjusted with touch panel or software)	
Touch Panel Type	Resistive film (analog, single touch)	
Touch Panel Resolution	1,024 x 1,024	
Touch Panel lifetime	1,000,000 times or more	

■ Electrical Specifications

		STC-6300TA	
Model No.		PFXSTC6300TADDKE	PFXSTC6300TADDCE
Rated Input Voltage		24 Vdc	
Input Voltage Limits		19.2 to 28.8 Vdc	
Voltage Drop		5 ms or less	
Power Consumption	Max	11.3 W	
	When power is not supplied to external devices	8 W or less	
	When screen turns off the backlight (Standby Mode)	5.6 W or less	
	In-Rush Current	30 A or less	
Noise immunity		Noise voltage: 1,000 Vp-p, pulse duration: 1 μs, rise time: 1 ns (via noise simulator)	
Voltage Endurance		1,000 Vac, 20 mA for 1 minute (between charging and FG terminals)	
Insulation Resistance		500 Vdc, 10 MΩ or more	

Basic HMI + Control: STC6000 Series

■ Environmental Specification

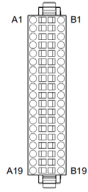| Model Name	STC-6300TA	
Model No.	PFXSTC6300TADDKE	PFXSTC6300TADDCE
Ambient air temperature	0 to 50 °C (32 to 122 °F)	
Storage Temperature	-20 to 60 °C (-4 to 140 °F)	
Ambient air and storage humidity	10%...90% RH (Non condensing, wet bulb temperature 39 °C [102.2 °F] or less)	
Dust	0.1 mg/m3 (10-7 oz/ft3) or less (non-conductive levels)	
Pollution Degree	For use in Pollution Degree 2 environment	
Corrosive Gases	Free of corrosive gases	
Air pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561 ft.] above sea level or less)	
Vibration Resistance	IEC/EN 61131-2 compliant 5 to 9 Hz single amplitude 3.5 mm [0.14 in.] 9 to 150 Hz fixed acceleration: 9.8 m/s2 X, Y, Z directions for 10 cycles (approx. 100 min.)	
Shock Resistance	IEC/EN 61131-2 compliant 147 m/s2, X, Y, Z directions for 3 times	
Electrical fast transient/burst	IEC 61000-4-4 2 kV: Power port (display unit) 1 kV: Signal ports	
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)	

■ Structural Specification

Model Name	STC-6300TA	
Model No.	PFXSTC6300TADDKE	PFXSTC6300TADDCE
Grounding	Functional grounding: Grounding resistance of 100 Ω, 2 mm² (AWG 14) or thicker wire, or your country's applicable standard.	
Cooling Method	Natural air circulation	
Structure *1	IP65F, UL 50/50E, Type 1, Type 4X (indoor use only), Type 13 (on the front panel when properly installed in an enclosure)	
External Dimensions	169.5 x 137 x 60 mm (6.67 x 5.39 x 2.36 in)	
Panel Cut Dimensions	156 x 123.5 mm (6.14 x 4.86 in) Panel thickness area: 1.6...5 mm (0.06...0.2 in) *2	
Weight	0.8 kg (1.76 lb) or less	

*1 The front face of this product, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though this product's level of resistance is equivalent to these standards, oils that should have no effect on this product can possibly harm this product. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to this product for long periods of time. If this product's front face protection sheet or cover glass peels off, these conditions can lead to the ingress of oil into this product and separate protection measures are suggested. Also, if non-approved oils are present, they may cause deformation or corrosion of the front panel's cover. Therefore, prior to installing this product, be sure to confirm the type of conditions that will be present in this product's operating environment.
If the installation gasket is used for a long period of time, or if this product and its gasket are removed from the panel, the original level of protection cannot be kept. To maintain the original protection level, be sure to replace the installation gasket regularly.

*2 Even if the installation wall thickness is within the recommended range for the Panel Cut Dimensions, depending on the wall's material, size, and installation location of this product and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.
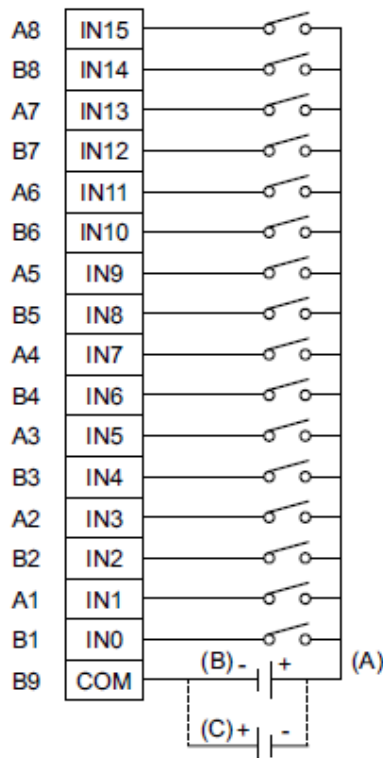
Basic HMI + Control: STC6000 Series

■ Interface Specification

Model Name	STC-6300TA	
Model No.	PFXSTC6300TADDKE	PFXSTC6300TADDCE
Serial (COM1)	Asynchronous Transmission: RS-232C/422/485, Data Length: 7 or 8 bits, Stop Bit: 1 or 2 bits, Parity: None, Even or Odd, Data Transmission Speed: 2,400 to 115,200 bps, Connector: D-Sub 9 (plug)	
USB（Type A）	Conforms to USB 2.0 (Type A) x 1 Power supply voltage: 5 Vdc ±5 % Output Current: 500 mA/port Maximum transmission distance : 5 m [16.4 ft.]	
USB （micro-B）	Conforms to USB 2.0 (micro-B) x 1, Maximum transmission distance : 5 m [16.4 ft]	
Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX, Connector: Modular jack (RJ-45) x 1	

DIO

DIO Connector: 38 pin connector (Model number: CA7-DIOCN5-01)
Cable connection side:

Pin No.	Signal name	Pin No.	Signal name
A1	IN1	B1	IN0 (CT0) *1
A2	IN3	B2	IN2 (CT1) *1
A3	IN5	B3	IN4 (CT2) *1
A4	IN7	B4	IN6 (CT3) *1
A5	IN9	B5	IN8
A6	IN11	B6	IN10
A7	IN13	B7	IN12
A8	IN15	B8	IN14
A9	NC	B9	COM
A10	Sink: NC	B10	Sink: +24 Vdc
A10	Source: +24 Vdc	B10	Source: +24 Vdc
A11	Sink: 0 Vdc	B11	Sink: 0 Vdc
A11	Source: NC	B11	Source: 0 Vdc
A12	OUT1 (PLS1, PWM1)*2	B12	OUT0 (PLS0, PWM0)*2
A13	OUT3 (PLS3, PWM3)*2	B13	OUT2 (PLS2, PWM2)*2
A14	OUT5	B14	OUT4
A15	OUT7	B15	OUT6
A16	OUT9	B16	OUT8
A17	OUT11	B17	OUT10
A18	OUT13	B18	OUT12
A19	OUT15	B19	OUT14

*1 Signal names in parentheses () indicate the counter input used.
*2 Signal names in parentheses () indicate the pulse output or PWM output used.

Basic HMI + Control: STC6000 Series

■ Digital Input Specifications

Input terminal		IN0...IN15
Rated voltage		24 Vdc
Maximum allowable voltage		28.8 Vdc
Input type		Sink/Source Input
Rated current		2.25 mA
Input resistance		10.7 kΩ
Input points		16
Input points		1
Common design		16-point/1 common line
Operation range	ON voltage	15...28.8 Vdc
	OFF voltage	0...5 Vdc
	ON current	2.25 mA
	OFF current	1.0 mA or less
Filtering	Normal input	0.5 ms x N (N is 0 to 40)
	High-speed counter (IN0, IN2, IN4, IN6)	None, 4 μs, or 40 μs
Input signal display		No LED indicators
Status display		None
Isolation		Yes
External connection		38 pin connector (used with Output section)
Cable length	Normal input	Maximum 50 m (164 ft)
	High-speed counter / Pulse catch input (IN0, IN2, IN4, IN6)	Maximum 10 m (33 ft)

Input Circuit

A8	IN15
B8	IN14
A7	IN13
B7	IN12
A6	IN11
B6	IN10
A5	IN9
B5	IN8
A4	IN7
B4	IN6
A3	IN5
B3	IN4
A2	IN3
B2	IN2
A1	IN1
B1	IN0
B9	COM

(B) - + (A)

(C) + -

A. 24 Vdc External power supply
B. Source type
C. Sink type

■ Digital Output Specifications

Input terminal			OUT0...OUT3	OUT4...OUT15
Rated voltage			24 Vdc	
Rated voltage range			20.4 Vdc...28.8 Vdc	
Output type			PFXSTC6300TADDKE: Sink output PFXSTC6300TADDCE: Source output	
Maximum load current			0.3 A/point, total 3.2 A	
Minimum load current			1 mA	1 mA (Pulse/PWM output unavailable)
Output voltage drop			1.5 Vdc or less	
Output delay time	OFF to ON (With output at 24 Vdc, 200 mA)		5 µs or less	50 µs or less
	ON to OFF (With output at 24 Vdc, 200 mA)		5 µs or less	50 µs or less
Type of output			Transistor output	
Common lines			2	
Common design			8-point/1 common line x 2	
External connection			38 pin connector (used with Input section)	
Output protection type			Output is unprotected	
Output points			16	
Output signal display			No LED indicators	
Status display			None	
Isolation			Yes	
External power supply			For Signal: 24 Vdc	
Cable length	Normal input		Maximum 150 m (492 ft)	
	Pulse/PWM output		Maximum 5 m (16 ft)	

Output Circuit: Sink type

A. 24 Vdc External power supply
B. Sink type
C. Dummy resistor *1
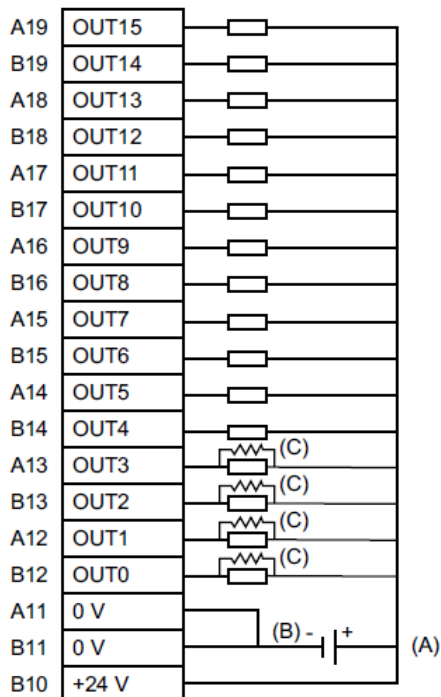
Output Circuit: Source type

A. 24 Vdc External power supply
B. Source type
C. Dummy resistor *1
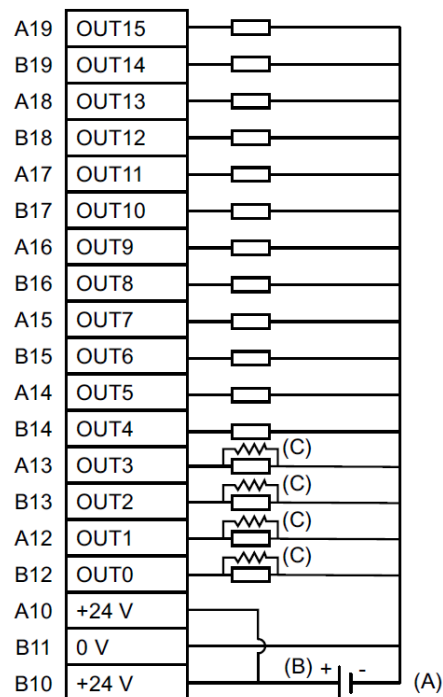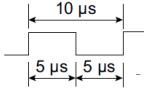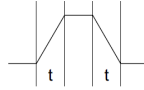
*1 (Example) If the output current is 24 Vdc 50 mA, the output delay time (OFF to ON) is 1.5 µs. If more responsiveness is required or the load is light, install an external dummy resistor to increase the amount of current.
NOTE: The output terminals are not electrically protected. A short circuit or poor connection of the output wiring may cause burnout of external devices and this product. If there is a risk of the current exceeding the output rating, connect an appropriate fuse to each output terminal.

Basic HMI + Control: STC6000 Series

■ High-Speed Counter

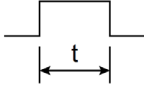| Input	24 Vdc open collector	
	24 Vdc open collector	24 Vdc open collector
Input points	CT0 (IN0), CT1 (IN2), CT2 (IN4), CT3 (IN6)	CT0 (IN0), CT1 (IN2) (used as pair) CT0: A Phase, CT1: B Phase CT2 (IN4), CT3 (IN6) (used as pair) CT2: A Phase, CT3: B Phase
Minimum pulse width (Pulse Input)	10 µs / 5 µs / 5 µs	
Count speed (Rise, Fall time)	t = 1 µs or less (100 kpps)	
Phase	1 phase	90 degree phase differential 2 phase signal 1 phase+ directional signal
High speed count frequency	100 kpps	50 kpps
Count edge designation	Available	Not available
Count register	32 bit UP/DOWN counter	
Counter mode change	Set through software	
Upper/Lower limit setting	Not available	
Preload - Prestrobe	Available	
Marker Input (Counter value clear)	None	IN3, IN7

■ Pulse Catch Input

Input	24 Vdc open collector
Input points	IN0, IN2, IN4, IN6
Minimum pulse width (Pulse Input)	Input signal ON width — t — t = 5 µs or more

■ Pulse Output

Output points	4
Output method	PLS0...PLS3 (OUT0...OUT3) *1
Load voltage	24 Vdc
Maximum load current	50 mA/1-point
Minimum load current	1 mA
Maximum output frequency	Up to 65 kHz/1-point *1
Pulse acceleration / Deceleration speed	Available
ON duty	50% ±10% (at 65 kHz) *2

■ PWM Output

Output points	4
Output method	PWM0...PWM3 (OUT0...OUT3) *1
Load voltage	24 Vdc
Maximum load current	50 mA/1-point
Minimum load current	1 mA
Maximum output frequency	Up to 65 kHz/1-point *1
ON duty	19...81% (at 65 kHz) *3

*1 Set with the software.
*2 ON duty error (10%) is reduced if the output frequency is low.
*3 ON duty (effective range) is wider if the output frequency is low.

Basic HMI + Control: STC6000 Series

■ Memory

Model Name			STC-6300TA	
Model No.			PFXSTC6300TADDKE	PFXSTC6300TADDCE
Application memory	Editor : GP-Pro EX	Media	FLASH EPROM	
		Screen area*1	64 MB	
		User font area	8 MB	
		Logic program area	132KB (Equivalent to 15,000 steps)	
		Free space	−	
	Removable system		No	
Backup memory	Editor : GP-Pro EX	Screen area	SRAM 320 KB	
		Variable area	SRAM 64 KB	
	Battery		Replaceable battery / Primary battery for clock data backup	

*1 Use the screen area when the user font area's capacity is exceeded − for example, when an image font or a picture font is used −.

■ Panel Cut Dimensions

Based on the panel cut dimensions, open a mount hole on the panel.
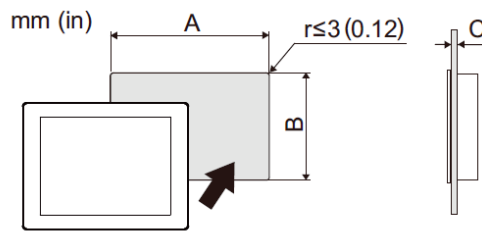
A	B	C
156 mm (+1/-0 mm) (6.14 in [+0.04/-0 in])	123.5 mm (+1/-0 mm) (4.86 in [+0.04/-0 in])	1.6...5 mm (0.06...0.2 in)

■ External Dimensions / Parts Identification

A: Status LED
B: DIO interface
C: Battery slot
D: Power plug connector
E: Ethernet interface (ETH)
F: CANopen interface (CAN)
G: USB (micro-B) interface
H: USB (Type A) interface
I: Serial interface (RS-232C/422/485) (COM)
J: Safety alert symbol
K: Expansion module interface
L: CANopen LED
M: Safety alert symbol