







To prevent screw tightening skipping!
Screw counter

STC3 Series

The number of screws to be tightened can be set from 1 to 99, with the remaining number counted down after each screw is tightened.

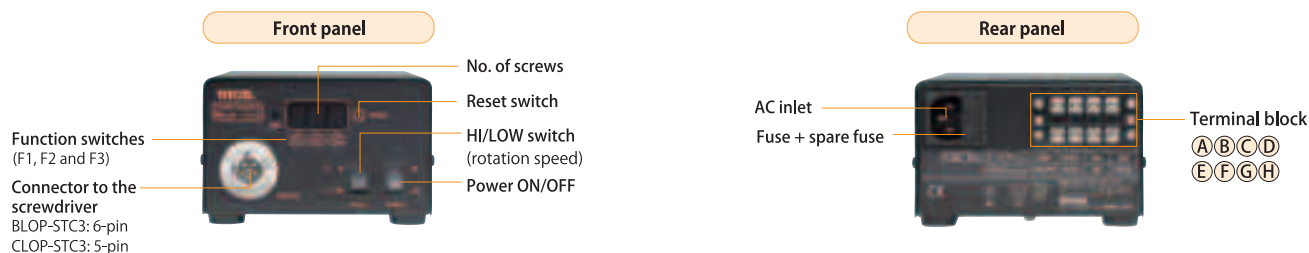
- A buzzer will sound when the final screw has been tightened to notify you of screw tightening completion.
- The countdown number is automatically reset after all screws have been tightened so that work can start on the next job immediately. The screwdriver will not be operable until the next "work set confirmation" SET signal is input (not applicable to SC3 Series).
- Prevents confirmation tightening, additional tightening and secondary tightening from being counted.
- Can be used as a normal power supply by disabling the count function.

(Applicable only to BLOP-STC3 and CLT-70STC3)

Model			Screw counter			Separate counter (external type)		
			STC3 Series		STC Series	SC1 Series		SC3 Series
			BLOP-STC3 《power supply type》 	CLT-70STC3 《power supply type》 	VZOP-STC 	BLOP-SC1 	CLOP-SC1 	Mini type BLOP-SC3 
Functions & compatible screwdrivers	Number of screws (1 to 99)		●	●	●	●	●	●
	Counting direction	Forward (count-down)	●	●	●	●	●	●
		Reverse (count-up*)	●	—	●	●	—	●
	Display	LED	●	●	●	●	●	●
		Count timer	●	●	●	●	●	●
	Build-in timer	Work set timer	●	●	●	●	●	—
		Work reset timer	●	●	●	●	●	●
		Reverse count timer	●	—	●	●	—	●
	External output	Power supply for external devices (E)	●	●	●	●	●	—
		Control output(A, F, G)	●	●	●	●	●	—
		Control input(C, B)	●	●	●	●	●	—
		Error output(H)	●	●	●	●	●	—
Screwdrivers	DC type	Brushless	BLG-BC1 Series	—	—	●	—	—
			BLG Series (OPC)	●	—	●	—	●
			BL Series (OPC)	●	—	●	—	●
		Brushed	CL Series	—	●	—	●	—
			SS Series	—	●	—	●	—
	AC type	Brushless	α Series	—	—	—	●	—
			VB Series (OPC)	—	●	—	—	—
			VBH Series (OPC)	—	●	—	—	—
		Brushed	VZ Series (OPC)	—	●	—	—	—
				—	●	—	—	—

* If you unscrew during operation, the count number will go back by one.

● Components and Functions of Screw Counter STC3




Function switches (F1, F2, F3)	
F1	Set number of screws: 1 to 99 → Set the number of screws to be tightened
	Set count timer: 0.00 to 0.99 sec. → Prevents counting of secondary tightening operations
	Set work set timer: 0.0 to 3.9 sec. → Time until the screwdriver becomes operational
	Set work reset timer: 0.0 to 3.9 sec. → Time until the screwdriver becomes non-operational
F2	Set reverse count timer: 0.1 to 1.0 sec. → Time until the count start after reverse rotation
	Display the number of screws remaining. Control the sound of the buzzer. Setting of ON/OFF of the reverse count control
F3	Control the motion of the counter at any time. Setting the ON/OFF of the torque-up buzzer sound control


Notes:

- Display and functions of VZOP-STC are partially different from the above.
- The reverse count timer is not included with CLT-70STC3 and CLOP-STC3.


Terminal block	
A	COMP "Work complete" signal output terminal, open collector output (maximum load rating: DC30V/80mA)
B	RESET Resets the count timer, input terminal for the "work forced release" signal from external device
C	SET Input terminal for the "work set confirmation" signal
D	GND (Terminal for grounding) —
E	+DC24V Power supply terminal for external device (maximum rating: DC24V/0.2A)
F	VALVE Output terminal for external equipment, open collector output (maximum load rating: DC30V/80mA)
G	BZ (Buzzer) Work complete output terminal, open collector output (maximum load rating: DC30V/80mA)
H	ER BZ (Error Buzzer) Warning output open collector output if work is removed before operation is complete (maximum load rating: DC30V/80mA)

DC Type / For BLG-BC1, BLG, BL, CL, SS, α Series

Model: BLOP-STC3 (for one screwdriver)		RoHS	CE
Compatible screwdrivers		《With power supply》	
Brushless screwdrivers			
● BLG -BC1Series BLG-4000BC1 BLG-5000BC1			
● BLG Series (OPC) BLG-4000-OPC BLG-5000-OPC			
● BL Series (OPC) BL-2000-OPC, BL-3000-OPC, BL-5000-OPC, BL-5020-OPC, BL-7000-OPC			
Primary input power source	AC100-240V, 47-63Hz		
Secondary output voltage	HI (2): about DC31V, LOW (1): about DC20V, 2-step switchable		
External dimensions (mm)	127(W)×208(D)×76(H)mm		
Weight (kg)	1.8kg		
Accessories	Power supply cord: 1.8m with ground wire (1pc) Crimp-type terminals: 8pcs		
Plug Type	A-1	A-2	A-3/C/BF/S

Model: CLT-70STC3 (for one screwdriver)		<div>RoHS</div> <div>CE</div>
<div>Compatible screwdrivers</div>		《With power supply》
<div>Brushed screwdrivers</div> <div><div>● CL series CL-2000, CL-3000, CL-4000, CL-6000, CL-6500, CL-7000</div><div>● SS series SS-2000, SS-3000, SS-4000, SS-6500, SS-7000</div><div>● α series α-4500, α-5000, α-6500</div></div>		
Primary input power source	AC100-240V, 47-63Hz	
Secondary output voltage	HI (2): about DC31V, LOW (1): about DC20V, 2-step switchable	
External dimensions (mm)	127(W)×208(D)×76(H)mm	
Weight (kg)	1.8kg	
Accessories	Power supply cord: 1.8m with ground wire (1pc) Crimp-type terminals: 8pcs	
Plug Type	A-1	A-2 A-3/C/BF/S

AC Type / For VB, VBH, VZ Series

Model: VZOP-STC (for one screwdriver)		RoHS
Compatible screwdrivers <p>Brushless screwdrivers</p> <ul style="list-style-type: none"> ● VB Series (OPC) (only 100 V/120V) VB-1510-OPC, VB-1510-18-OPC VB-1820-OPC, VB-3012-OPC (including PS type) VB-4504PS-OPC ● VBH Series (OPC) (only 100 V/120V) VBH-1820PS-OPC, VBH-3012PS-OPC <p>Brushed screwdrivers</p> <ul style="list-style-type: none"> ● VZ Series (OPC) (only 100 V/120V) VZ-1510-OPC, VZ-1820-OPC, VZ-3012-OPC, VZ-4506-OPC (including PS type) VZ-4506PS-OPC 		
Primary input power source	AC100V (50/60Hz)	AC120V (50/60Hz)
External dimensions (mm)	160(W) × 175(D) × 84(H)mm	
Weight (kg)	1.5kg	
Accessories	Power supply cord: 1.8m with ground wire (1pc) Crimp-type terminals: 8pcs	
Plug Type	A-1	A-2

Connection to PLC (programmable controller)

You can use the screwdriver with OPC specifications by cutting the cable for OPC at the tip to expose the lead and connect it to the PLC.

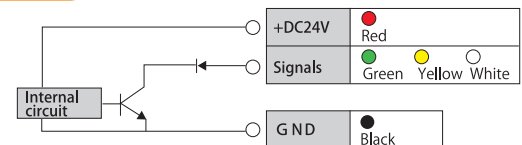
Note: The models connectable to the PLC are only AC type/VB, VBH, VZ screwdrivers (OPC).

Screwdrivers with OPC

- These screwdrivers have the function to send out signals of forward and reverse rotations and torque-up.
- The signals are separated by the photo coupler for safety.
- The output is open collector output (Max. 24V/20mA) and can be directly connected to the PLC, etc.



Internal circuit diagram



Guide for output wire colors

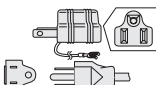
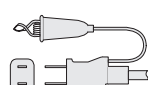
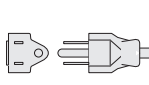
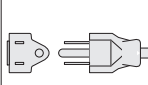
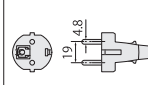
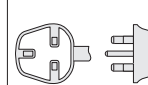
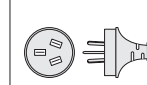


- Red: input of +DC24V
- Black: input of GND
- Green: signal output of forward rotation
- White: signal output of torque-increase
- Yellow: signal output of reverse rotation

About PLC

For the time chart, please download the operation manuals of VB-OPC or VZ-OPC in PDF available on the HIOS website.

● Plug Type

Voltage	100V		120V	220-240V			
	Type A	Type A-1	Type A-2	Type A-3	Type C	Type BF	Type S
Plug Type							

- To prevent screw tightening skipping!
Separate screw counter

SC1 Series

The counter function can be added easily by connecting this to the existing HIOS power supply.

DC Type /


For BLG-BC1, BLG, BL Series

Model: BLOP-SC1 (for one screwdriver) RoHS CE

Compatible screwdrivers

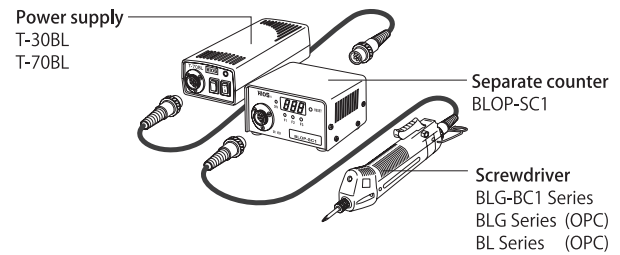
Brushless screwdrivers

- BLG-BC1 Series
- BLG Series (OPC)
- BL Series (OPC)



Primary input power source	DC20 / 31V
Secondary output voltage	Same as the secondary output voltage of the connected power supply.
External dimensions (mm)	110(W) × 100(D) × 55(H)mm
Weight (g)	600g
Accessories	Power supply cord: 1.5m (1pc) Crimp-type terminals: 8pcs

● Configuration of components



● Connectable power supplies and screwdrivers

Power supplies	Connectable screwdrivers (OPC)
T-30BL (for one screwdriver)	BLG-4000BC1, BLG-4000-OPC, BL-2000-OPC, BL-3000-OPC
T-70BL (for one screwdriver)	BLG-4000BC1, BLG-5000BC1, BLG-4000-OPC, BLG-5000-OPC, BL-2000-OPC, BL-3000-OPC, BL-5000-OPC, BL-5020-OPC, BL-7000-OPC


For CL, SS and α Series

Model: CLOP-SC1 (for one screwdriver) RoHS CE

Compatible screwdrivers

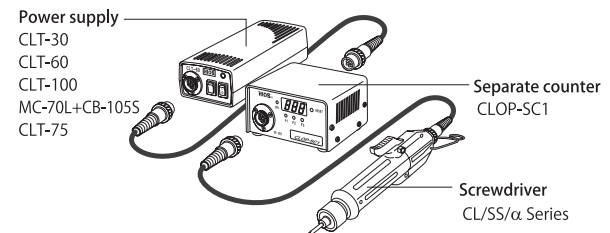
Brushed screwdrivers

- CL Series
- SS Series
- α Series



Primary input power source	DC20 / 31V
Secondary output voltage	Same as the secondary output voltage of the connected power supply.
External dimensions (mm)	110(W) × 100(D) × 55(H)mm
Weight (g)	600g
Accessories	Power supply cord: 1.5m (1pc) Crimp-type terminals: 8pcs

● Configuration of components

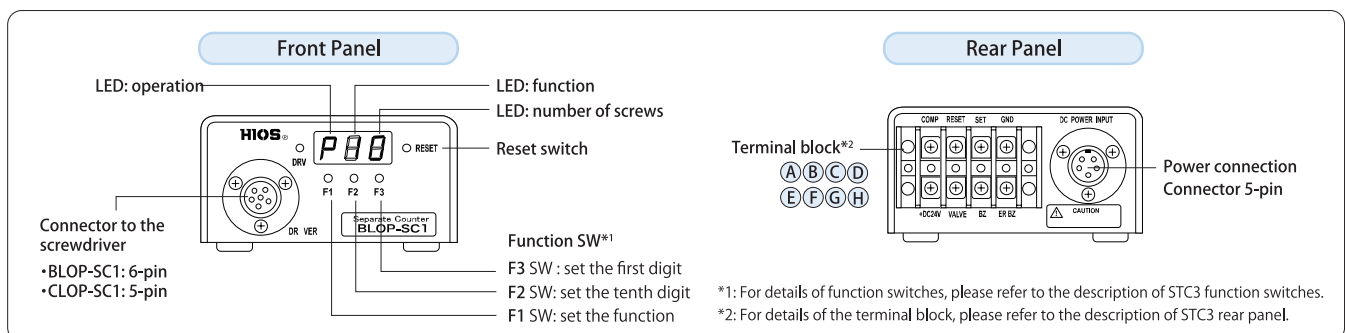


● Connectable power supplies and screwdrivers

Power supplies	Connectable screwdrivers
CLT-30 (for one screwdriver)	CL-2000, CL-3000, SS-2000, SS-3000
CLT-60 (for one screwdriver)	CL-2000, CL-3000, CL-4000, CL-6000, CL-6500, CL-7000
CLT-100 (for two screwdrivers)	SS-2000, SS-3000, SS-4000, SS-6500, SS-7000, α-4500, α-5000, α-6500*
MC-70L +CB-105S	Up to 20 screwdrivers CL-2000, CL-3000, CL-4000, SS-2000, SS-3000, SS-4000
(multiple)	Up to 10 screwdrivers CL-6000, CL-6500, CL-7000, SS-6500, SS-7000, α-4500, α-5000
	Up to 5 screwdrivers α-6500
CLT-80 (for one screwdriver)	CL-9000

* α-6500 cannot be connected with CLT-100 (for two screwdrivers).

● Components of Separate Counter SC1



- To prevent screw tightening skipping!
- Compact** Separate screw counter

SC3 Series

Only 120g!

This palm-sized compact counter can be directly connected to a screwdriver.

DC Type /
For BLG, BL Series

Model: BLOP-SC3 (for one screwdriver)



Compatible screwdrivers

Brushless screwdrivers

- BLG Series (OPC)
- BL Series (OPC)



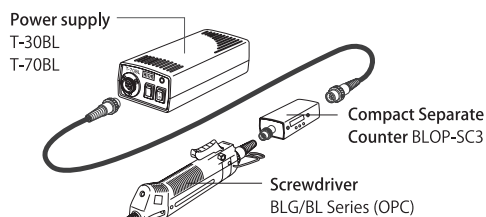
Image of fitting

Primary input power source	DC20 / 31V
Secondary output voltage	Same as the primary power voltage
External dimensions (mm)	67(W) × 25(D) × 25(H)mm
Weight (g)	120g
Accessories	Hanger for mounting: 1 set

Notes:

- Always use BLOP-SC3 by hanging it from the balancer.
- Do not use this device for horizontal screw tightening.

● Connection of components

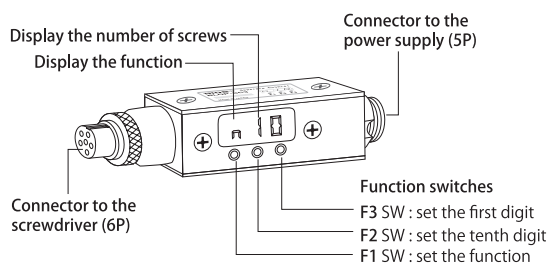


● Connectable power supplies and screwdrivers

Power supplies	Screwdrivers (OPC)
T-30BL (for one screwdriver)	BLG-4000-OPC, BL-2000-OPC, BL-3000-OPC
T-70BL (for one screwdriver)	BLG-4000-OPC, BLG-5000-OPC, BL-2000-OPC, BL-3000-OPC, BL-5000-OPC, BL-5020-OPC, BL-7000-OPC

● Components and Functions of Compact Separate Counter SC3

Display Panel



Function switches (F1, F2, F3)

	Set number of screws: 1 to 99	→ Set the number of screws to be tightened
	Set count timer: 0.00 to 0.99 sec.	→ Prevents counting of secondary tightening operations
	Set work reset timer: 0.1 to 3.9 sec.	→ Time until the screwdriver becomes non-operational
F1	Set reverse count timer: 0.1 to 1.0 sec.	→ Time until the count start after reverse rotation
	Set the system	→ Display the number of screws remaining. Control the sound of the buzzer. Setting ON/OFF of the reverse count control. Setting ON/OFF of the torque-up buzzer sound control
F2	Set the tenth digit	→ Increases by 1 each time you press it
F3	Set the first digit	→ Increases by 1 each time you press it