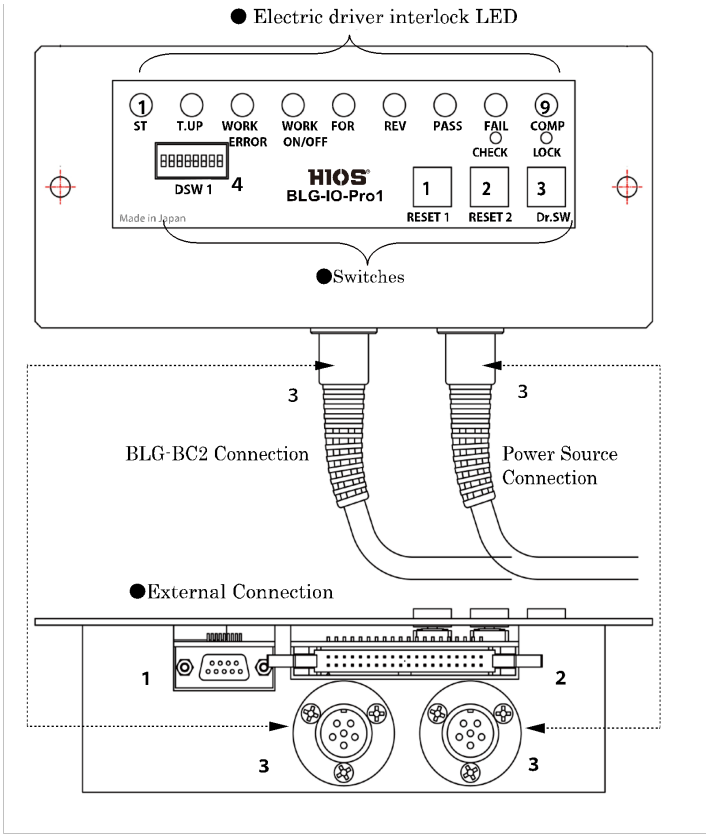
I/O Box: BLG-BC2

Operation Manual for I/O Box BLG-IO-Pro1

Outline

A simplified I/O BOX enables to interlock external devices such as switch, LED lights and buzzer by connecting the driver BLG-BC2 Series.

Part Names



Electric Driver Interlock LED	
ST	ON from start to stop
T.UP	On when the driver clutched out
WORK-Err	ON when work pieces are not set
WORK-ON/OFF	presence/absence of work piece
FOR	ON during normal rotation
REV	ON during reverse direction
PASS	ON when screw-fastening errors did not occur
FAIL	ON when screw-fastening errors occured
COMP	ON after cycle complete

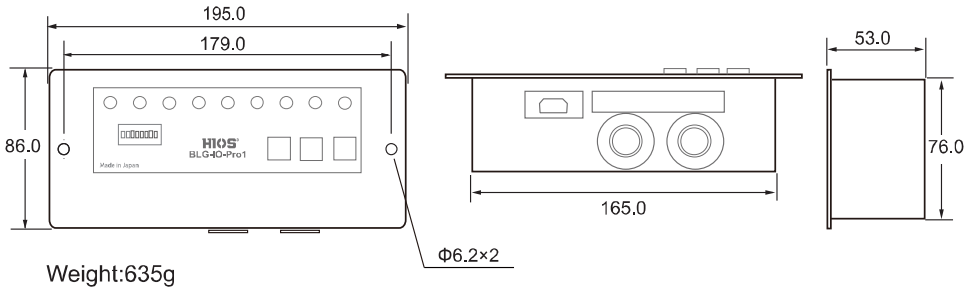
Switches on the front panel

1. RESET1
2. RESET2
3. DrSW (BLG-BC2 can be forcibly turned off) When the switch is OFF, BC2 is OFF, LED "LOCK" is ON
4. DSW1 (Reference 1)

External Connection

1. RS-232C
2. I/O Port (Reference 2)
3. 6-pin Metal Connector (2 pieces)
   - Right: Power supply for T-45BL or T-70BL
   - Left: BLG-BC2 Screwdriver

External Dimension Drawing



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DSW ON/OFF Operational Conditions (Reference Table 1)

NOTE: The default factory setting is "ON" for DSW1 #1 and #6.

DSW1#	Setting Name	Contents	
		ON	OFF
1	Work-piece Set	BC2 is operable regardless of presence /absence of work-piece	BC2 is not operable when work-piece is absence.
2	Reset BC2 after a screw-fastening error (Fail)	ON: the count is returned to the value just before the error occurred	OFF: reset, the count is returned to the default value.
3	Set up mode buttons on BC2	All BC2 set up mode buttons are locked. BC2 set up modes cannot be changed with the buttons on the BC2. LED "M" light on the BC2 is ON.	All BC2 set up mode buttons are unlocked. BC2 set up modes can be changed with the buttons on the BC2. LED "M" light on the BC2 is OFF.
4	Operation of screwdriver after batch count complete	BC2 is not operable from batch count complete until a new work-piece is set.	BC2 is operable after batch count complete.
5	IO Pro1 Buzzer	Buzzer works upon PASS, Fail and cycle complete.	Buzzer does not work.
6	Operation after an error (Fail)	BC2 is still enabled upon Fail.	BC2 becomes disabled upon Fail. Release (* Note: Same as DSW1-2)
7	NC		
8	NC		

Precaution

- DSW1 setting must be done when the I/O BOX is powered off.
  - DSW1 #1
    - should be "OFF" when an external work-piece set is used through the I/O Port.
  - DSW1 #2
    - When DSW1 #6 are "ON"
    - BC2 is not disabled when the Fail LED is on. Press the RESET button on the front panel of I/O BOX to release.
    - RESET buttons sequence
      1. RESET1: For turning off the buzzer (BC2 is not enabled at this point.)
         After confirming everything is ready to restart operation, press RESET2 button.
      2. RESET2: BC2 becomes enabled.
    - When DSW1 #5 or 6 are "ON"
      When Fail LED turns on and buzzer sounds, BC2 becomes disabled. Press the RESET buttons to release.
    - Order to push the RESET buttons
      1. RESET1 -> For turning off the buzzer (BC2 is still disabled at this point.)
         After confirming everything is ready to restart operation, press RESET2 button.
      2. RESET2 -> BC2 becomes enabled.

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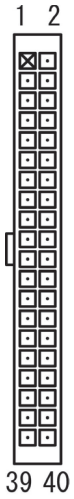
DSW ON/OFF Operational Conditions (Reference Table 1)

Precaution (Continued)

- DSW1 #5
  - should be "OFF" when an external work-piece set is used through the I/O Port.

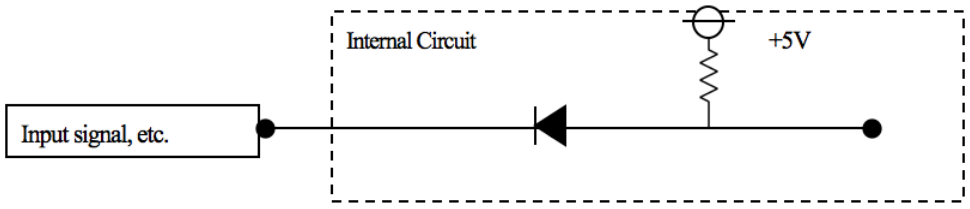
Pin Configuration of the I/O Port Connector (Reference 2)



	Pin Numbers and Names	
GND	22, 23, 24, 25, 36, 37, 39	
Low active input (Operable on the input signal at Low level.)	26, 27	Workpiece Set
	32, 33	RESET1
	34, 35	RESET2
Open collector output	11	PASS/COMP (revolving lights, etc.)
	12	T-UP/COMP (revolving lights, etc.)
	13	Fail/COMP (revolving lights, etc.)
	15	Buzzer (DSW1 interlock)
	20	PASS
	21	Fail
For connecting devices such as PC (RS232C). Refer to "BC2 communication specifications"	38	RXD
	40	TXD

How to Use the Low Active Interval Circuit

- The voltage should be less than 0.3V at LOW
- The voltage should be less than 30V for pull-up resister of an external voltage supply



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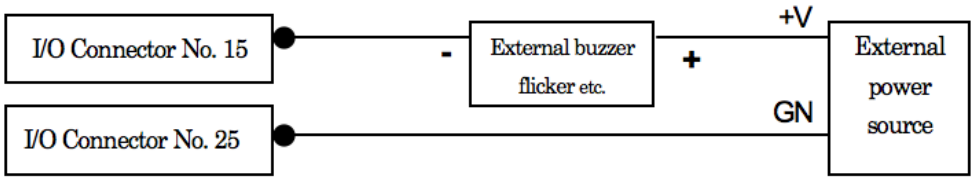
Pin Configuration of the I/O Port Connector (Reference 2) (Continued)

The reference structural outline when an external buzzer is installed and interlocks with the I/O BOX buzzer is externally installed (External power supply is needed for the external buzzer.)



Other Specifications

- Consumption current 30V/40mA (Please use the HIOS power supply T-BL series dedicated to HIOS electric screwdriver)
- Open collector output (max. 40V/40mA)
- Items included in the package
  - BLG-IO-Pro1: 1 unit
  - 6-pin driver cord 2m: 1pc
  - 40-pin connector (250mm) : 1pc
  - BLG-IO -Pro1 Operation Manual: 1copy
- **NOTE:** The BLG-BC2 I/O Cable is optional and not included in the package.

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