



MQL SEMI-DRY INTERNAL APPLICATOR

EcoBooster

THROUGH-SPINDLE ADVANCED MQL TECHNOLOGY

INSTRUCTIONS

- SETTING PRESSURE SWITCH -

Type of pressure switch vary on manufacturing date of EcoBooster



ISE40
(SMC)



MPS-P33
(CONVUM)



ISE80
(SMC)



ISE20
(SMC)

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Check EB Model and type of pressure switch (EB Standard model)

1 Check Model # and serial # of EcoBooster

Pressure switch

Supply air

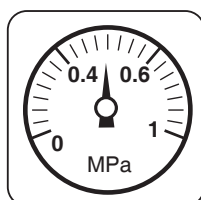
Model# EB3EP-LA20-3UN

Serial# EB YYMM0xx

[Standard Model (Normal Close)]

- EB3P - □ / EB3EP - □
- EB7P - □ / EB7EP - □
- EB7VP - □ / EB7VEP - □

2 Check air pressure being supplied to EcoBooster



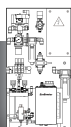
Supply air : _____ MPa (※Setting value of the switch vary on supplied air.)

Feature :

EcoBooster atomizes the Blube lubricant into micro-droplets, that carry near sonic velocity to the cutting edge with 0.25MPa dropped. The switch keeps pressure balance between applicator inside and outside.

3 Check type of pressure switch

	 ISE40	 MPS-P33	 ISE80	 ISE20C
EB7P/7EP EB7VP/7VEP			2016.02-	2021.04-
EB3P/3EP			2018.04-	2021.04-
	To P4	To P5	To P7	



Check EB Model and type of pressure switch (EB Special model)

Supply air

Model# EB7AEP-XXX

Serial# EB YYMM0xx

[Special Model (Normal Open)]

- EB7AEP - □
- EB3EP - 436
- EB7EP - 437

To P10



Setting values of pressure switches (EB Standard)

ISE40/MPS-P33



ISE40



MPS-P33

	Output	EB Model
ISE40-W1-30L-M	NPN	P/EP
ISE40-W1-70L-M	PNP	EP

Set value					Supported model		
Air Supply	Acceleration-air OUT1		Mist-air control OUT2		EB3x	EB7x(※1)	EB7x(※2)
	n_1	n_2	n_3	n_4	[24VDC] [100/200VAC]	- [100/200VAC]	[24VDC] -
0.4MPa	0.190	0.170	0.200	0.185	☐	☐	☐
0.5MPa	0.240	0.220	0.250	0.235	☐	☐	☐
0.6MPa	0.340	0.320	0.350	0.335	☐	☐	☐
0.7MPa	0.440	0.420	0.450	0.435	☐	☐	☐
0.8MPa	0.540	0.520	0.550	0.535	☐	☐	☐

(※1) Model
EB7P-S1/2-
EB7EP-C1/2
EB7VP-SB1/2
EB7VEP-BL-1/2C

(※2) Model
EB7P-S3-
EB7EP-C3
EB7VP-SB3
EB7VEP-BL-3C

ISE80/ISE20



ISE80



ISE20

	Output	EB Model
ISE80-CO01L-A-M	NPN	P/EP
ISE80-CO01L-B-M	PNP	EP

Set value					Supported model		
Air Supply	Acceleration-air OUT1		Mist-air control OUT2		EB3x	EB7x(※1)	EB7x(※2)
	n_1	H_1	n_2	H_2	3P/3EP	- [100/200VAC]	[24VDC] -
0.4MPa	0.170	0.020	0.185	0.015	☐	☐	☐
0.5MPa	0.220	0.020	0.235	0.015	☐	☐	☐
0.6MPa	0.320	0.020	0.335	0.015	☐	☐	☐
0.7MPa	0.420	0.020	0.435	0.015	☐	☐	☐
0.8MPa	0.520	0.020	0.535	0.015	☐	☐	☐

(※1) Model
EB7P-S1/2-
EB7EP-C1/2
EB7VP-SB1/2
EB7VEP-BL-1/2C

(※2) Model
EB7P-S3-
EB7EP-C3
EB7VP-SB3
EB7VEP-BL-3C

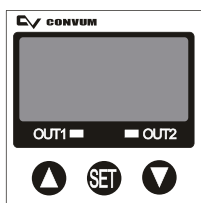


EB Standard model (normal close) EB3P/3EP/7P/7EP/7VP/7VEP

SETTING : ISE40 / MPS-P33



ISE40
ISE40-W1-30L-M
ISE40-W1-70L-M



MPS-P33
MPS-P33RC-NGAT
MPS-P33RC-PGAT
Output NPN P/EP
EB Model EP

Set value of ISE40/MPS-P33

Air Supply	Acceleration-air		Mist-air control	
	OUT1 n_1	OUT2 n_2	OUT3 n_3	OUT4 n_4
0.4MPa	0.190	0.170	0.200	0.185
0.5MPa	0.240	0.220	0.250	0.235
0.6MPa	0.340	0.320	0.350	0.335
0.7MPa	0.440	0.420	0.450	0.435
0.8MPa(※3)	0.540	0.520	0.550	0.535

(※3)EB7x24VDC ONLY

HOW to set ISE40/MPS-P33

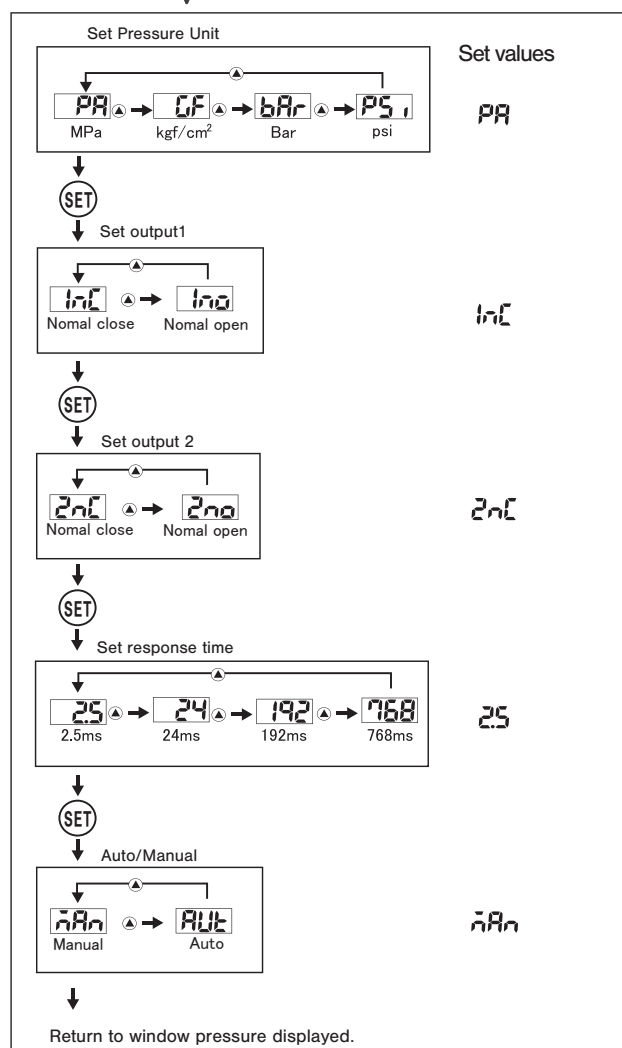
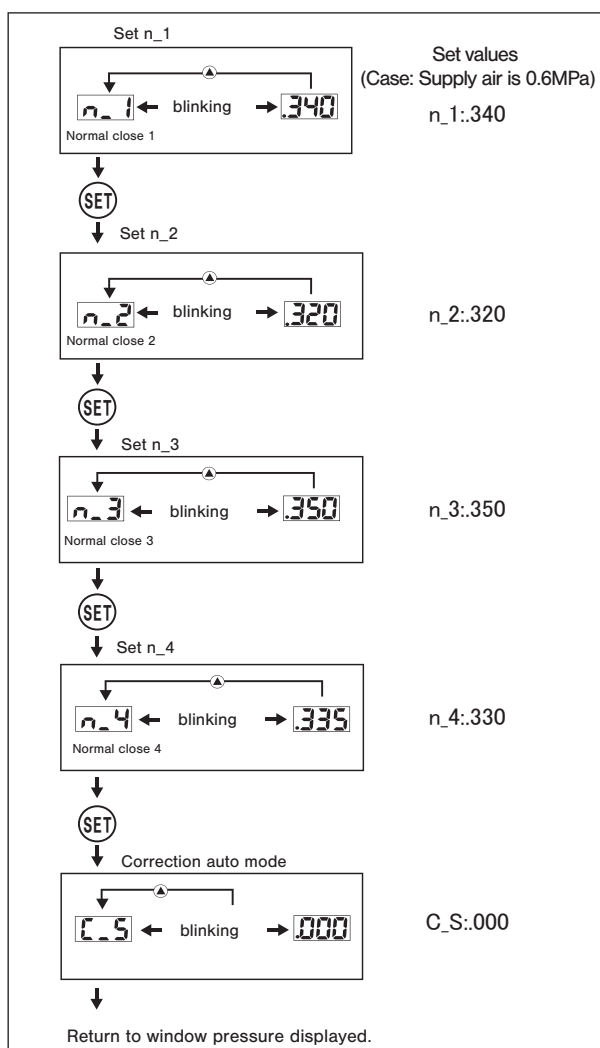
1 Press (SET) button (less than 2 seconds)

2 Confirm n_ displayed

No

3A Set(n_)

3B Pressure Unit(MPa) / Output: Normal close(n_) / Response time (2.5ms) / Manual



3A

Press SET button

Confirm n_ displayed



SETTING : ISE80



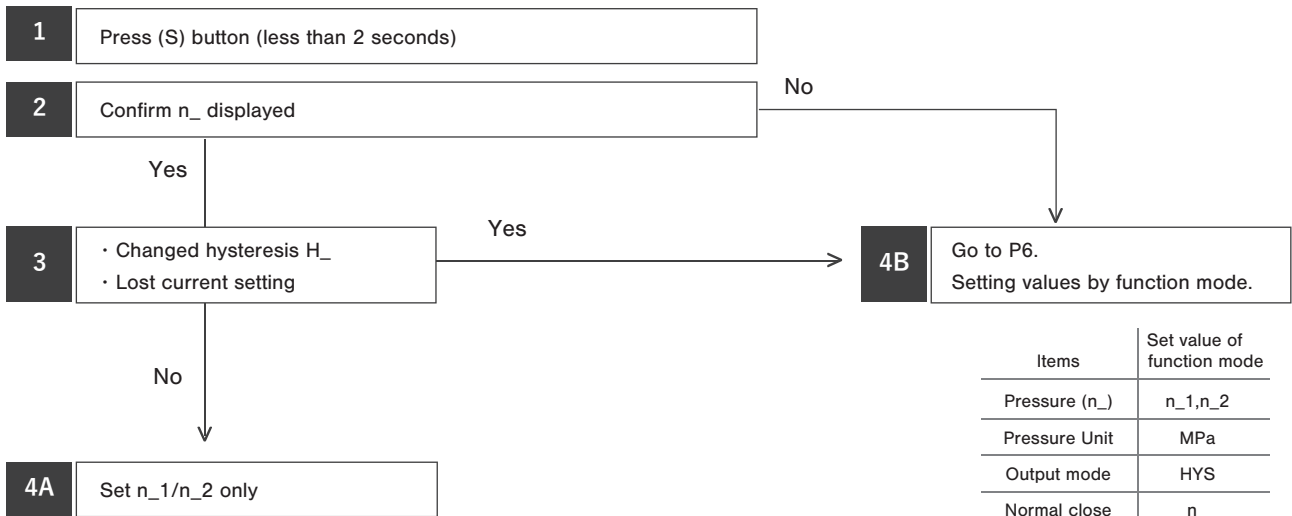
ISE80	Output	EB Model
ISE80-CO01L-A-M	NPN	P/EP
ISE80-CO01L-B-M	PNP	EP

Set value of ISE80

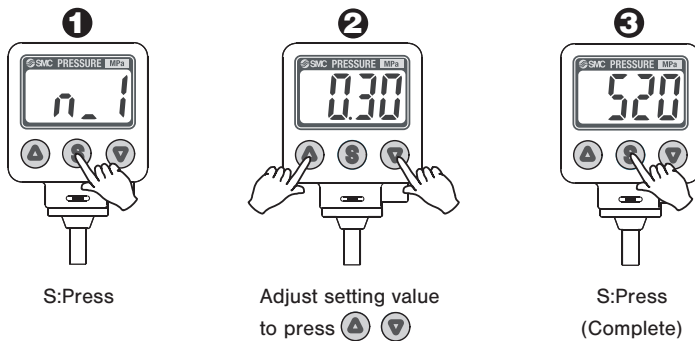
Air Supply	Acceleration-air OUT1		Mist-air control OUT2	
	n_1	H_1	n_2	H_2
0.4MPa	0.170	0.200	0.185	0.015
0.5MPa	0.220	0.020	0.235	0.015
0.6MPa	0.320	0.020	0.335	0.015
0.7MPa	0.420	0.020	0.435	0.015
0.8MPa(※3)	0.520	0.020	0.535	0.015

(※3)EB7x24VDC ONLY

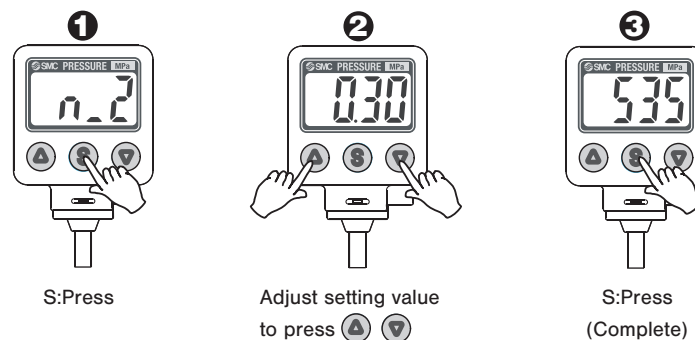
HOW to set ISE80 (Measurement mode) ※Case: Supply air is 0.8MPa

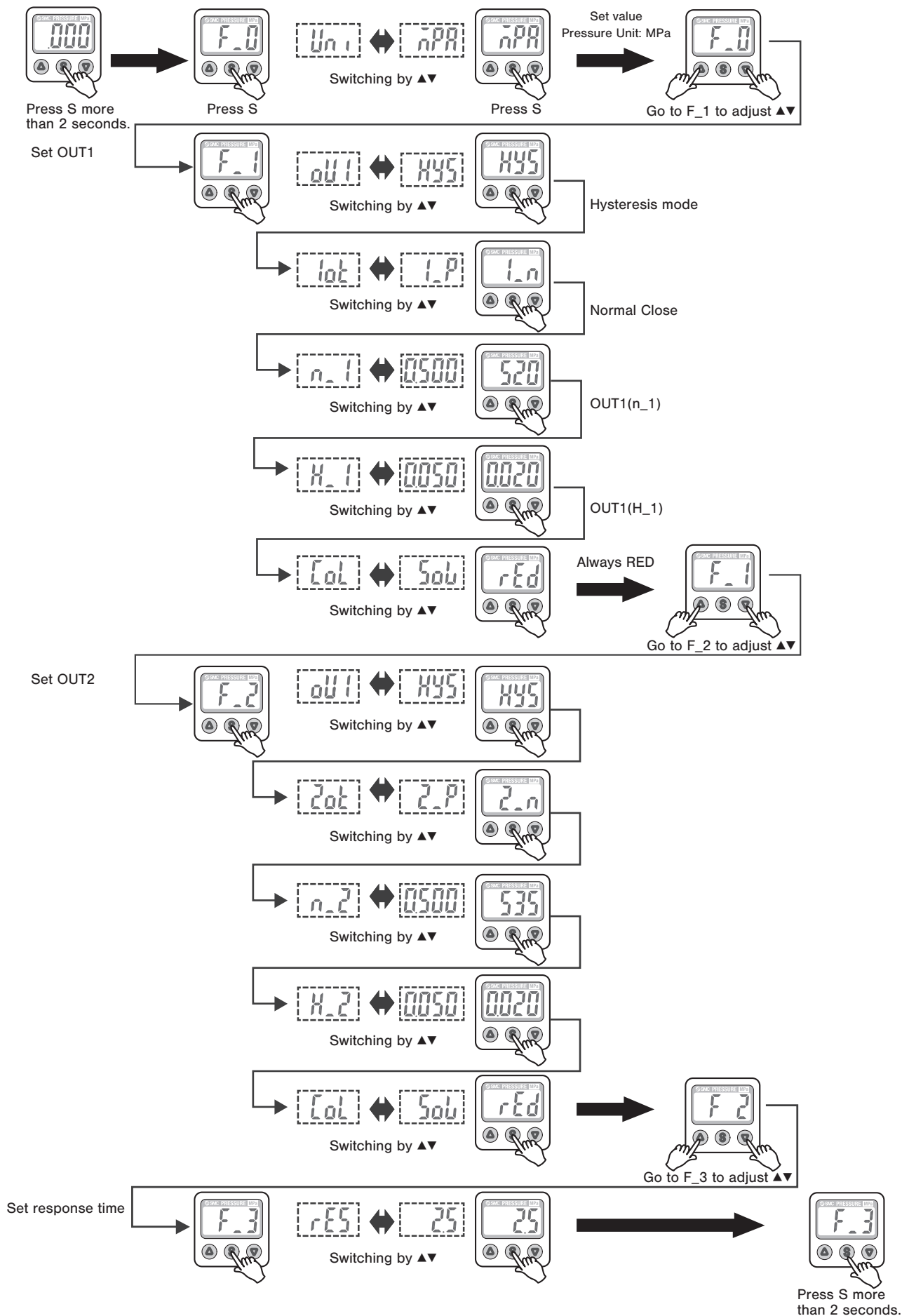


Set n_1



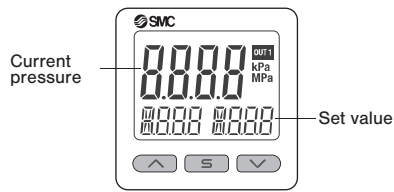
Set n_2



How to set ISE80 (Function Mode) ※Case: Supply air is 0.8MPa



SETTING : ISE20



ISE20	Output	EB Model
ISE20C-X-M-C01L-W	NPN	P/EP
ISE20C-Y-M-C01L-W	PNP	EP

Set value of ISE20

Air Supply	Acceleration-air OUT1 n_1	H_1	Mist-air control OUT2 n_2	H_2
0.4MPa	0.170	0.020	0.185	0.015
0.5MPa	0.220	0.020	0.235	0.015
0.6MPa	0.320	0.020	0.335	0.015
0.7MPa	0.420	0.020	0.435	0.015
0.8MPa(※3)	0.520	0.020	0.535	0.015

(※3)EB7x24VDC ONLY

How to set ISE20 (Measurement mode) ※Case: Supply air is 0.4MPa

1 Adjust display to n_1 and n_2 to press

2 Confirm n_ displayed

Yes

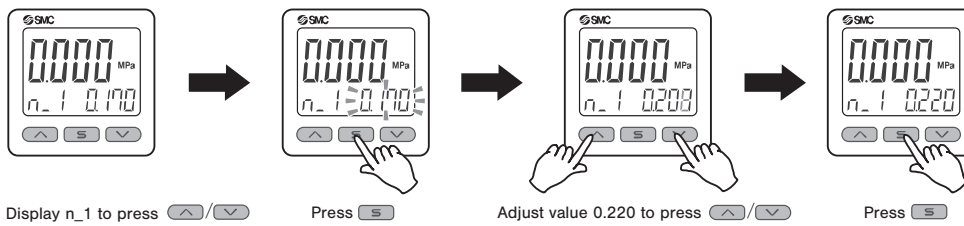
No

3A Set pressure(n_1) and hysteresis (H_)

3B Go to P8,9
Setting values by function mode.

Items	Set value of function mode
Pressure (n_)	n_1,n_2
Pressure Unit	MPa
Output mode	HYS
Normal close	_n
Hysteresis (H_)	H_1,H_2
Display color	rEd

Set n_1



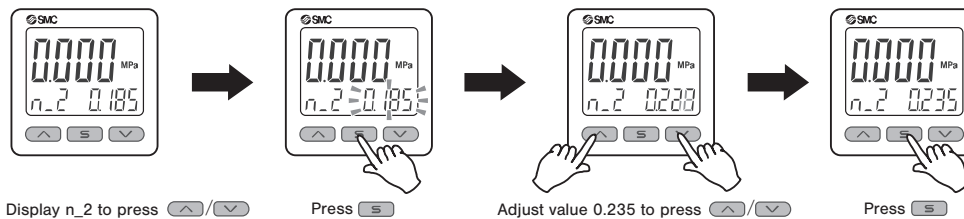
Display n_1 to press

Press

Adjust value 0.220 to press

Press

Set n_2



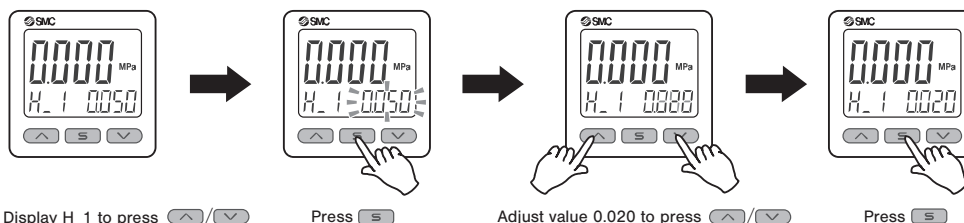
Display n_2 to press

Press

Adjust value 0.235 to press

Press

Set H_1



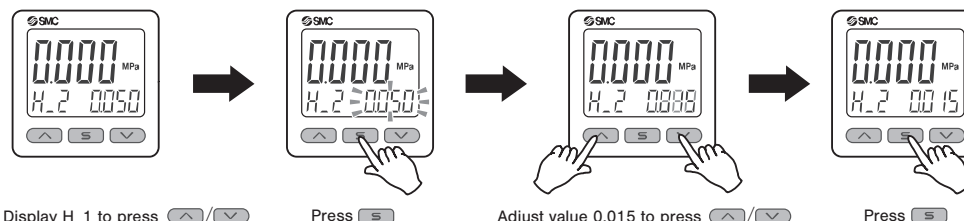
Display H_1 to press

Press

Adjust value 0.020 to press

Press

Set H_2



Display H_2 to press

Press

Adjust value 0.015 to press

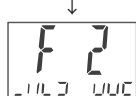
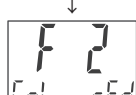
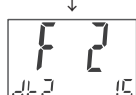
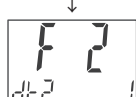
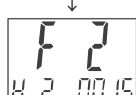
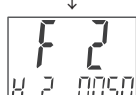
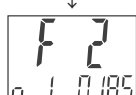
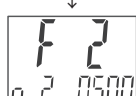
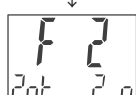
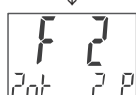
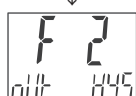
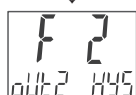
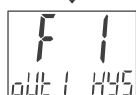
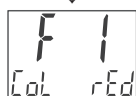
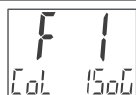
Press

SETTING ISE20 (Function mode) ※Case: Supply air is 0.4MPa

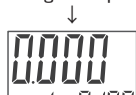
Mode	Display	Operation procedure
Preparation, measurement mode		Connect 12 to 24 VDC power supply. Go to measurement mode.
Function selection mode		Hold down the button for at least 3 seconds, but no more than 5 seconds [F 0] will be shown on the main display. Release the button when [F 0] is displayed to return to function selection mode.
Display unit settings		Display [F 0] by pressing the or button in function selection mode. Press the once. Go to display unit settings.
		Press the or button to change the value on the right side of the sub screen (see left).
		Press the once. Return to function selection mode.
Setting output mode for OUT1		Display [F 1] by pressing the or button in function selection mode. Press the once. Go to output mode settings for OUT1.
		Press the or button to change the value on the right side of the sub screen (see left).
Setting of normal/reversed output for OUT1		Press the once. Go to normal/reversed output settings for OUT1.
		Press the or button to change the value on the right side of the sub screen (see left).
Entering the set value [n_1] for OUT1		Press the once. Go to the setting of set value [n_1] for OUT1.
		Press the or button to change the set value on the right side of the sub display (see left).
Setting of hysteresis [H_1] for OUT1		Press the once. Go to hysteresis [H_1] settings for OUT1.
		Press the or button to change the set value on the right side of the sub display (see left).
Setting response time for OUT1		Press the once. Go to response time settings for OUT1.
		Press the or button to change the value on the right side of the sub screen (see left).

SETTING ISE20 (Function mode) ※Case: Supply air is 0.4MPa

Display color settings



Settings complete.



Press the button once.

Go to display color settings.

Press the or button to change the value on the right side of the sub screen (see left).

Press the button once.

Return to function selection mode.

Display [F 2] by pressing the or button in function selection mode.

Press the button once.

Go to output mode settings for OUT2.

Press the or button to change the value on the right side of the sub screen (see left).

Press the button once.

Go to normal/reversed output settings for OUT2.

Press the or button to change the value on the right side of the sub screen (see left).

Press the button once.

Go to the setting of set value [n_2] for OUT2.

Press the or button to change the set value on the right side of the sub display (see left).

Press the button once.

Go to hysteresis [H_2] settings for OUT2.

Press the or button to change the set value on the right side of the sub display (see left).

Press the button once.

Go to response time settings for OUT2.

Press the or button to change the value on the right side of the sub screen (see left).

Press the button once.

Move to display colour settings; this is the same as that of OUT1, which has already been set.

Press the button once.

Return to function selection mode.

Hold the button for 2 second or longer.

Return to measurement mode.

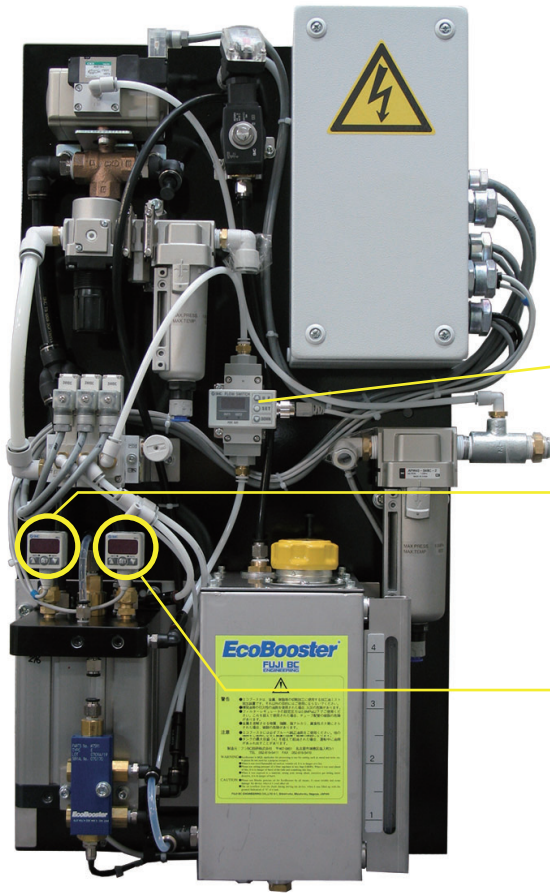
Zero-clear

Press the and buttons simultaneously for around 1 second under atmospheric pressure.

This will reset the displayed value to zero.



EB Special model (normal open) EB7AEP-□□□ / EB3EP-436 / EB7EP-437



■ Please be sure to check EB7AEP model number.
Specifications would vary on model number which offers fully made to order.

■ Customizing settings for customer fields.
Pre-configured value before shipment vary on EB model.

Digital flow switch

Check air flow rate of mist-air

Pressure switch

Control inner pressure of the applicator inside

Pressure switch

Check mist-air pressure

Digital flow switch (※)



Error detection (lower limit)

p_1	p_2	p_3	p_4
16.5	16.0	-	-

(※) Please be sure to check model number.
Specifications would vary on model number.

Pressure switch (ISE40/MPS-P33/ISE80/ISE20)

1	Press (SET)/(S) button (less than 2 seconds)
2	Confirm p_ displayed
3	Set values of pressure switches respectively to refer below table and setting value on page 11.

Pressure Switch	How to set	Set value
ISE40/MPS-P33	P4	P11
ISE80	P5,6	P11
ISE20	P7 ~ 9	P11



Setting values of pressure switches (EB Special model)

ISE40 / MPS-P33 (※)

ISE40-W1-30/70L-M
(SMC)MPS-P33RC-P/NGAT
(CONVUM)

~ FEB. 2016

Items	SET (more than 2secs)
Pressure	p_1 ~ p_4
Pressure Unit	MPa
Normal open	p_
Response time	2.5ms
Auto/Manual	Manual

< Control inner pressure of the applicator inside >

Air Supply	Acceleration-air OUT1		Mist-air control OUT2	
	p_1	p_2	p_3	p_4
0.4MPa	0.190	0.170	0.200	0.185
0.5MPa	0.240	0.220	0.250	0.235
0.6MPa	0.340	0.320	0.350	0.335
0.7MPa	0.440	0.420	0.450	0.435
0.8MPa	0.540	0.520	0.550	0.535

< Check mist-air pressure >

Air Supply	Error detect (lower limit)		Error detect (operating range)	
	p_1	p_2	p_3	p_4
0.8MPa	0.750	0.700	1.000	0.500

ISE80 / ISE20 (※)

ISE80-C01L-A/B-M
FEB. 2016 ~ISE20C-X/Y-M-C01L-W
APR. 2021 ~

Items	Set value of function mode (more than 2secs)
Pressure (n_)	p_1, p_2
Pressure Unit	MPa
Output mode	HYS
Normal open	p_
Hysteresis (H_)	H_1, H_2
Display color	rEd

< Control inner pressure of the applicator inside >

Air Supply	Acceleration-air OUT1		Mist-air control OUT2	
	p_1	H_1	p_2	H_2
0.4MPa	0.170	0.200	0.185	0.015
0.5MPa	0.220	0.020	0.235	0.015
0.6MPa	0.320	0.020	0.335	0.015
0.7MPa	0.420	0.020	0.435	0.015
0.8MPa	0.540	0.020	0.550	0.015

< Check mist-air pressure >

Air Supply	Error detect (lower limit)		Error detect (operating range)	
	p_1	H_1	p_2	H_2
0.8MPa	0.750	0.050	1.000	0.500

(※) Please be sure to check model number. Specifications would vary on model number.

EcoBooster

Advanced and clean technology to provide lubrication and protection precisely through spindle, which offers high quality, performance and sustainable productivity.

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最新の製品情報はホームページをご覧ください。 <http://www.fuji-bc.com/>

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※性能向上のため、予告なく外観及び仕様を変更する場合があります。あらかじめご了承ください。