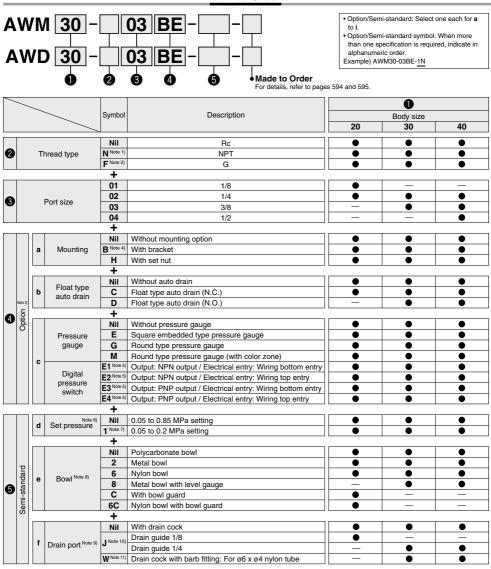


- The AWM series is made up of a regulator and a mist separator to provide optimum results in applications such as clean air blow operations. (Nominal filtration rating: 0.3  $\mu$ m)
- The AWD series is made up of a regulator and a micro mist separator to provide optimum results in applications such as ultraclean air blow operations. (Nominal filtration rating: 0.01 μm)

How to Order



**SMC** 

## Mist Separator Regulator AWM20 to AWM40 Series Micro Mist Separator Regulator AWD20 to AWD40 Series



Ľ,	AF-A						
AWM20,	AF🗆-A						
		0			AR-A		
20		y size 30	40		AL-A		
		-			AL-A		
•		•	•		AW-A		
•		•	•				
•		•	•		AC-B		
•		•	•		AF-A		
•		•	•				
O Note 14)	0	Note 14)		ie 14)	AF🗆-A		
△ Note 15)	$\triangle$	Note 15)		ie 15)	AR:		
Note 12) For threa			duct is for o Measureme		AU-B		
(The Sl u digital pre	nit type is ssure sw	s provided for vitch will be	or use in Jap equipped wi	an.) The th the	AL-A		
The com	bination (	of the round	ig to psi initia I type press	ure	AW:		
			d a psi disp d product. H		7100-0		
is not orderable as a standard product. However, this combination is available as a special. Note 13) For options: E1, E2, E3, E4. This product is for overseas use only according to the new							
Measure use in Ja	A□G						
Note 14) O: For thread type: NPT only Note 15) △: Select with options: E1, E2, E3, E4.							
			_, _0,		E		
AWM30 AWM40 AWD30 AWD40					AV		

AF

AC-A

/	/	/					0			
				Symbol	Description		Body size			
						20	30	40		
			Exhaust	Nil	Relieving type		•			
		g					-			
			mechanism	N	Non-relieving type					
	밀	_		+						
	Semi-standard	h	Flow direction	Nil	Flow direction: Left to right		•			
6	stal		Flow direction	R	Flow direction: Right to left	•	•			
	i-			+						
	Sel			Nil	Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa					
		i	Pressure unit	Z Note 12)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	O Note 14)	O Note 14)	O Note 14)		
				ZA Note 13)	Digital pressure switch: With unit conversion function	△ Note 15)	△ Note 15)	△ Note 15)		
Note Note Note	Note 1)     Drain guide is NPT1/8 (applicable to the AVM20, NWD20) and NPT1/4 (applicable to the AVM30 to AVM204 AVW203 to AVD404). The auto drain     Note 6)     Float type auto drain: when used in combination with C or D, minimum set pressure is: N.O.     Note 12)     For thread type: NPT. This product is for oversea use only according to the new Measurement Law.       0 AVM204 AVM203 to AVM204). The auto drain     Note 6)     Float type auto drain: when used in combination type-0-11 MPa; N.C. type-0-11 MPa; N.C. t									
			wiring bottom entry" fo			Note 14) O: For thread type: NPT only				

Note 11) Metal bowl: The combination of 2 and 8 is not possible.

space for lead wires will not be secured. In this cas select "wiring bottom entry" for the electrical entry.

**Standard Specifications** 

Model		AWM20 AWD20	AWM30 AWD30	AWM40 AWD40			
Port size		1/8, 1/4	1/8, 1/4 1/4, 3/8 1/4, 3/8, 1/4				
Fluid			Air				
Proof pressure			1.5 MPa				
Maximum operating pressure			1.0 MPa				
Set pressure range			0.05 to 0.85 MPa				
Pressure gauge port size Note 1)		1,	/8	1/4			
Ambient and fluid temperature No	te 2)	-	-5 to 60°C (with no freezing	)			
Nominal filtration rating	AWM20 to AWM40	0.3	size)				
Nominal initiation rating	AWD20 to AWD40	0.01 µm (99.9% filtered particle size)					
Outlet side oil mist	AWM20 to AWM40	Max. 1.0 mg/m <sup>3</sup> (ANR) (~ 0.8 ppm) Note 3) Note 4)					
concentration	AWD20 to AWD40	Max. 0.1 mg/m <sup>3</sup> (ANR) (Before saturated with oil 0.01 mg/m <sup>3</sup> (ANR) or less ~ 0.008 ppm) Note 3 Note 4					
Rated flow (L/min (ANR)) Note 5)	AWM20 to AWM40	150	330	820			
Rated flow (L/IIIII (ANR))	AWD20 to AWD40	90	180	450			
Drain capacity (cm <sup>3</sup> )		8	25	45			
Bowl material			Polycarbonate				
Bowl guard		Semi-standard Standard					
Construction		Relieving type					
Weight (kg)		0.29 0.59 0.75					
Note 1) Pressure gauge connection threads a	are not available for Note 4) E	Bowl O-ring and other O-rings are	slightly lubricated.				

Note 4) Bowl O-ring and other O-rings are slightly lubricated.

F.R.L. unit with a square embedded type pressure gauge. Note 2) -5 to 50°C for the products with the digital pressure switch. Note 3) When the compressor oil mist discharge concentration is 30 mg/m<sup>3</sup> (ANR).

Note 5) Conditions: Mist separator inlet pressure: 0.7 MPa; outlet pressure: 0.5 MPa. The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.



## AWM20 to AWM40 Series AWD20 to AWD40 Series

#### **Options/Part No.**

				Model			
	Optional specifie	cations	AWM20 AWD20				
Bracket as	sembly Note 1)		AW20P-270AS	AR30P-270AS	AR40P-270AS		
Set nut			AR20P-260S	AR30P-260S	AR40P-260S		
	Burnella Mate 2)	Standard	G36-1	0-□01	G46-10-□02		
Pressure	Round type Note 2)	0.02 to 0.2 MPa setting	G36-2	G36-2-□01			
	Round type Note 2)	Standard	G36-10	G46-10-□02-L			
gauge	(with color zone)	0.02 to 0.2 MPa setting	G36-2-	G46-2-□02-L			
	Square embedded	Standard	Standard GC3-10AS [GC3P-010AS (Pressure gauge of				
	type Note 3)	0.02 to 0.2 MPa setting	GC3-2AS [GC3P-010AS (Pressure gauge cover only)]				
		NPN output / Wiring bottom entry	ISE35-N-25-	MLA [ISE35-N-25-M (Switc	h body only)]		
Digital proc	sure switch Note 4)	NPN output / Wiring top entry	ISE35-R-25-	MLA [ISE35-R-25-M (Switc	h body only)]		
Digital pres	isure switch	PNP output / Wiring bottom entry	ISE35-N-65-	MLA [ISE35-N-65-M (Switc	h body only)]		
		PNP output / Wiring top entry	ISE35-R-65-	h body only)]			
Elect type	auto drain Note 5) Note 6)	N.C.	AD27	AD37	AD47		
Float type a		N.O.	_	AD38	AD48		

### Semi-standard/Bowl Assembly Part No.

S	emi-stand	lard speci	ifications				Model	
Bowl material	Bowl material Note 5) Note 6) Float type auto drain N.C. N.O.		Note 6) With drain guide	With barb fitting	With bowl guard	AWM20 AWD20	AWM30 AWD30	AWM40 AWD40
	_	_	_	_	•	C2SF-C	_	_
	•	_	_	—	•	AD27-C	—	_
Polycarbonate	_	_	•	_	_	C2SF-J	C3SF-J	C4SF-J
	_	_	_	•	_	_	C3SF-W	C4SF-W
	_	_	•	_	•	C2SF-CJ	—	_
	_	—	_	_	_	C2SF-6	C3SF-6	C4SF-6
	_	—	_	_	•	C2SF-6C	—	_
	•	_	_	_	_	AD27-6	AD37-6	AD47-6
Nulsa	_	•	_	_	—	—	AD38-6	AD48-6
Nylon	•	—	_	_	•	AD27-6C	_	_
	_	_	•	—	-	C2SF-6J	C3SF-6J	C4SF-6J
	_	—	_	•	—	—	C3SF-6W	C4SF-6W
	_	_	•	_	•	C2SF-6CJ	_	_
	_	—	_	_	_	C2SF-2	C3SF-2	C4SF-2
Metal	•	—	-	—	—	AD27-2	AD37-2	AD47-2
Ivietai	_	•	_	_	_	—	AD38-2	AD48-2
	_	_	•	_	_	C2SF-2J	C3SF-2J	C4SF-2J
	_	_	_	_	_	_	C3LF-8	C4LF-8
Metal bowl with	•	—	_	—	—	_	AD37-8	AD47-8
level gauge	_	•	_	_	_	_	AD38-8	AD48-8
	_	_	•	_	_	_	C3LF-8J	C4LF-8J

Note 1) Assembly of a bracket and set nuts

Note 1) in passening or a bracket and set indus
Note 2) in passening or a bracket and set indus
Note 2) in part numbers for a round pressure gauge indicates a type of connection thread. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the connection thread NPT and pressure gauge supply for psi unit specifications.
Note 3) Including one O-ring and 2 mounting screws. [ ]: Pressure gauge cover only
Note 4) Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc), mounting screw (2 pcs.) are attached. [ ]: Switch body only.

Also, regarding how to order the digital pressure switch, please refer to page 596.

Note 5) Minimum operating pressure: N.O. type-0.1 MPa; N.C. type-0.1 MPa (AD27) and 0.15 MPa (AD37/47). Please contact SMC for psi and °F unit specifications. Note 6) Please consult SMC for details on drain piping to fit NPT or G port sizes. Note) • Including O-ring.

Bowl assembly for the AWM30/40, AWD30/40 comes with a bowl guard (steel band material). (except when the bowl material is metal)

**SMC** 



## AWM20 to AWM40 Series AWD20 to AWD40 Series Specific Product Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 387 to 391 for F.R.L. Precautions.

#### Selection

## \land Warning

 Residual pressure release (outlet pressure release) is not complete by releasing inlet pressure. Please contact SMC regarding residual pressure release.

## A Caution

When operating at an inlet pressure lower than the inlet pressure used in the flow rate characteristics graph, the pressure drop on the outlet side may be greater. Therefore, be sure to conduct testing using the actual equipment.

For pressure control equipment selection, refer to page 123 in the "Product Selection Guide."

### Air Supply

## \land Caution

- Install an air filter (AF series) as a pre-filter on the inlet side of the mist separator regulator to prevent premature clogging.
- Install a mist separator (AFM series) as a pre-filter on the inlet side of the micro mist separator regulator to prevent premature clogging.

#### Maintenance

## \land Warning

 Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

### Mounting and Adjustment

## \land Caution

- Set the regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the regulator knob excessively can cause damage to the internal parts.
- The pressure gauge included with regulators for 0.02 to 0.2 MPa setting is for up to 0.2 MPa use only. Exceeding 0.2 MPa of pressure can damage the gauge.
- 3. Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.

### Mounting and Adjustment

### **Warning**

- Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure. Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.
  - Pull the pressure regulator knob to unlock. (You can visually verify this with the "orange mark" that appears in the gap.)
  - Push the pressure regulator knob to lock. When the knob is not easily locked, turn it left and right a little and then push it (when the knob is locked, the "orange mark", i.e., the gap will disappear).



AF

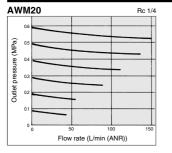
AC-A

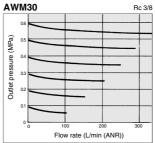
AF-A

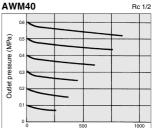
2. A knob cover is available to prevent careless operation of the knob. Refer to page 597 for details.

## AWM20 to AWM40 Series AWD20 to AWD40 Series

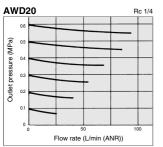
### Flow Rate Characteristics (Representative values)

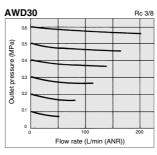


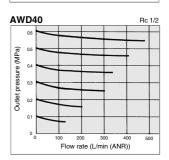




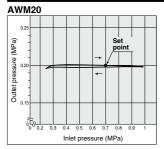
Flow rate (L/min (ANR))

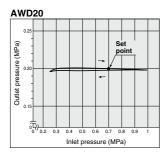


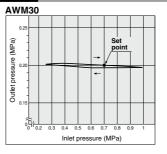


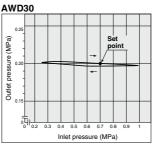


### Pressure Characteristics (Representative values)

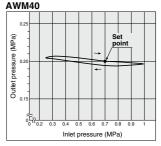


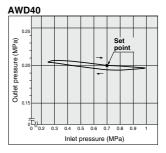






Conditions: Inlet pressure 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 L/min (ANR)





#### Condition: Inlet pressure 0.7 MPa

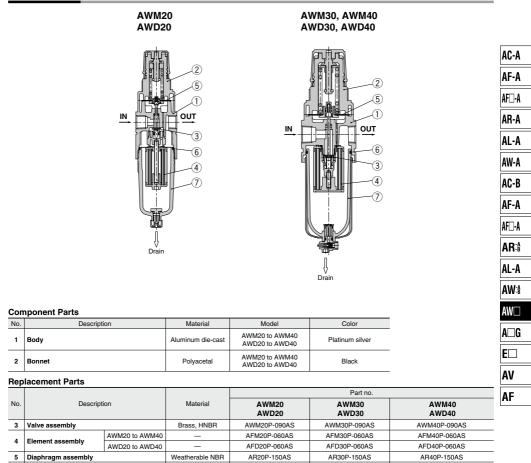
## Mist Separator Regulator AWM20 to AWM40 Series Micro Mist Separator Regulator AWD20 to AWD40 Series

### Construction

6

7

Bowl O-ring



C2SFP-260S

C2SF

**SMC** 

C3SFP-260S

C3SF Note 2)

Bowl assembly Note 1) Polycarbonate Note 1) Bowl O-ring is included. Please contact SMC regarding the bowl assembly supply for psi and °F unit specifications.

NBR

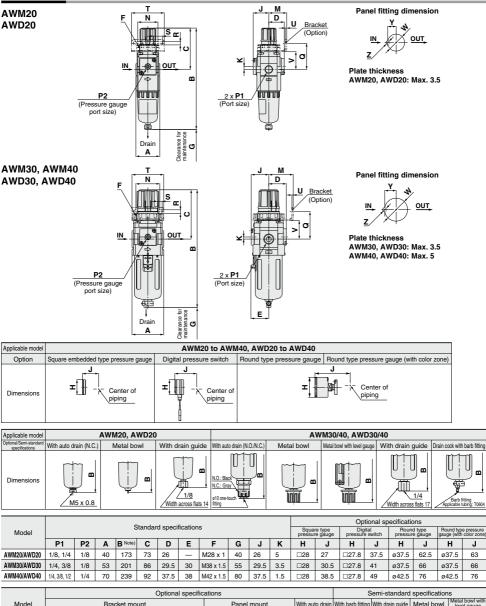
Note 2) Bowl assembly for the AWM30/40, AWD30/40 comes with a bowl guard (steel band material).

C4SFP-260S

C4SF Note 2)

## AWM20 to AWM40 Series AWD20 to AWD40 Series

### Dimensions



	Optional Specifications									berni standard specifications						
Model			Bra	icket mo	ount			Panel mount With auto drain			With barb fitting With drain guide Metal bowl			Metal bowl with level gauge		
	М	N	Q	R	S	Т	U	V	V W Y Z			B Note)	B Note)	B Note)	B Note)	B Note)
AWM20/AWD20	30	34	44	5.4	15.4	55	2.3	30	28.5	14	6	190	—	177	173	-
AWM30/AWD30	41	40	46	6.5	8	53	2.3	31	38.5	19	7	242	209	208	214	234
AWM40/AWD40	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	278	247	246	252	272

**SMC** 

Note) The total length of B dimension is the length when the filter regulator knob is unlocked.

AC-A
AF-A
AF🗆-A
AR-A
AL-A
AW-A
AC-B
AF-A
AF⊡-A
AR:₿
AL-A
AW:₿
AW
A□G
E
AV
AF



# Mist Separator Regulator AWM20 to AWM40 Micro Mist Separator Regulator AWD20 to AWD40 Made to Order Specifications:



Please contact SMC for detailed dimensions, specifications and lead times.

### 1 0.4 MPa Setting

The maximum set pressure is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 0.4 MPa.

### Specifications

Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Set pressure range	0.05 to 0.4 MPa

#### **Applicable Model**

Marial	AWM20	AWM30	AWM40
Model	AWD20	AWD30	AWD40
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2

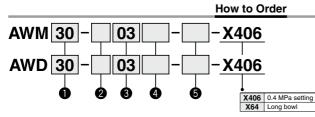
### 2 Long Bowl

Drain capacity is greater than that of standard models.

### Applicable Model/Drain Capacity

Model	AWM20	AWM30	AWM40
woder	AWD20	AWD30	AWD40
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2
Drain capacity (cm <sup>3</sup> )	19	43	88

Note) Please consult SMC for dimensions.



#### · Option/Semi-standard: Select one each for a to i · Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order 0.4 MPa Setting Long Bowl Example) AWM30-03BE-2N-X406 a 1 Symbo Description Body size 30 Body size 40 20 **3**0 40 20 Nil R 2 N Note Thread type NPT No te 2 G 01 1/8 02 1// 6 Port size 03 3/8 04 1/2 Without mounting option Nil B Note 4 Mounting With bracket Н With set nut (for panel fitting) Nil Without auto drain Float type C Float type auto drain (N.C. auto drain Float type auto drain (N.O.) Option 0 Nil Without pressure gauge Pressure Square embedded type pressure gauge (with limit indicator) gauge Round type pressure gauge Μ Round type pressure gauge (with color zone) с E1 No Output: NPN output / Electrical entry: Wiring bottom entry Digital E2 Note 5) Output: NPN output / Electrical entry: Wiring top entry pressure E3 Note 5) Output: PNP output / Electrical entry: Wiring bottom entry switch E4 Note 5) Output: PNP output / Electrical entry: Wiring top entry

Note 1) Drain guide is NPT 1/8 (applicable to the AWM20, AWD20) and NPT 1/4 (applicable to the AWM30 to AWD40, AWD30 to AWD40). The auto drain port comes with ø3/8\* Onetouch fitting (applicable to the AWM30 to AWM40, AWD30 to AWD40).

Note 2) Drain guide is G 1/8 (applicable to the AWM20, AWD20) and G 1/4 (applicable to the AWM30 to AWM40, AWD30 to AWD40).

Note 3) Option B, G, H, M are not assembled and supplied loose at the time of shipment. Note 4) Assembly of a bracket and set nuts

Note 5) When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring bottom entry" for the electrical entry.

## Mist Separator Regulator AWM20 to AWM40 Series Micro Mist Separator Regulator AWD20 to AWD40 Series

AF-A AF - A AR-A AL-A AW-A AC-B AF-A AF - A AL-A AW:8 AW A⊟G E

AV AF

Boy

AC-A

						0.4 IV	iPa Se	euing	LO	пу Бо	W	
	<u> </u>	<u> </u>		Symbol	Description	20	Body size	40	20	D Body size 30	40	
		d	Note 6)	Nil	0.05 to 0.85 MPa setting	_	-	_	•	•	•	
		ŭ	Set pressure	1 Note 7)	0.05 to 0.2 MPa setting	_	-	-		•	•	
				+ Nil	Polycarbonate bowl							
			Bowl Note 8)	2	Metal bowl							
				6	Nylon bowl	Ť	ě	ě	Ť	ě	ě	
		е		8	Metal bowl with level gauge	-	•	•	-	-	_	
				С	With bowl guard	•	-	-	•	-	-	
				6C	Nylon bowl with bowl guard	•	-	-	•	-	-	
	2	_		+								
	- <u>8</u>		Note 9) Drain port	Nil	With drain cock	•	•	•	•	•	•	
6	Semi-standard	f			J Note 10)	Drain guide 1/8	•	-	-	•	-	-
-	÷ E			W Note 11)	Drain guide 1/4				-		•	
	S.			+	Drain cock with barb fitting: For ø6 x ø4 nylon tube		•	•		•	•	
			Exhaust	Nil	Relieving type							
		g	mechanism	N	Non-relieving type		ě	ě		i		
				÷						5		
			Flow direction	Nil	Flow direction: Left to right					•	•	
		h	Flow direction	R	Flow direction: Right to left		•	•	•	•	•	
				+								
				Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•	•	•	•	
		I	Pressure unit	Z Note 12)	Name plate and caution plate for bowl, and pressure gauge in imperial units: psi, °F	O Note 14)	O Note 14)	Note 14)	O Note 14)	O Note 14)	O Note 14)	
				ZA Note 13)	Digital pressure switch: With unit conversion function	Note 15)	△ Note 15)	Note 15)	Note 15)	Note 15)	Note 15)	

Note 6) Float type auto drain: when used in combination with C or D, minimum set pressure is: N.O. type-0.1 MPa; N.C. type-0.1 MPa (AD27) and 0.15 MPa (AD37/47).

Note 7) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the

pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted. Note 8) Refer to Chemical Data on page 387 when selecting a case material.

Note 9) Float type auto drain: The combination of C and D is not possible.

Note 10) Without a valve function

Note 11) Metal bowl: The combination of 2 and 8 is not possible.

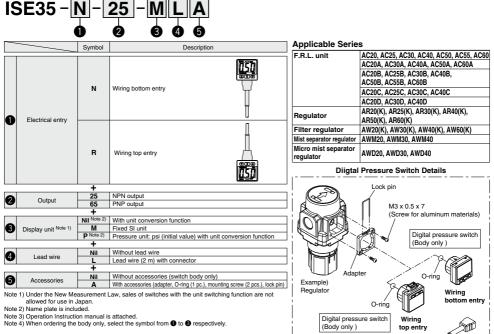
Note 12) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.

Note 13) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.) Note 14) O: For thread type: NPT only Note 15) A: Select with options: E1, E2, E3, E4,

MDa Sattin

# Option Digital Pressure Switch C 든 본섬 유 RoHS

For details about the Pressure Switch Precautions, refer to Best Pneumatics No. 8. For details about the Specific Product Precautions, refer to the Operation Manual at SMC website.



Lead wire with connecto

Dimensions: Lead wire with connector

2020

Brown DC (+) Black OUT (1) Blue DC (-)

ZS-32-A

#### Option/Part no.

When optional pa	arts are required separately, use the following part numbers to place an order.
Part no.	Option
ZS-32-A	Lead wire (2 m) with connector

ZS-32-C Accessories (adapter, O-ring (1 pc.), mounting screw (2 pcs.), lock pin)

### Specifications

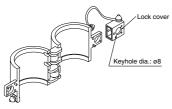
Specificati		
Rated pressure range		0 to 1 MPa
Display/Set pressure range		-0.1 to 1 MPa
Withstand pressure		1.5 MPa
Display/Set pressure resolution		0.01 MPa
Fluid		Air, Inert gas, Non-flammable gas
Power supply voltage		12 to 24 VDC, Ripple (p-p) 10% or less (with power supply polarity protection)
Current consumption		55 mA or less (at no load)
Switch output		NPN or PNP open collector 1 output
	Max. load current	80 mA
	Max. applied voltage	30 V (with NPN output)
	Residual voltage	1 V or less (with load current of 80 mA)
	Response time	1 s (Response time selections: 0.25, 0.5, 2, 3)
Short circuit	t protection	With short circuit protection
Repeatability		±1%F.S.
Hysteresis	Hysteresis mode	Variable (can be set from 0)
	Window comparator mode	
Display		3-digit, 7-segment indicator, 2-color display (Red/Green) can be interlocked with the switch output.
Display accuracy		±2%F.S. ±1 digit (at 25°C ± 3°C)
Indicator light		Illuminates when output is turned ON. (Green)
Environmental resistance		IP40
	Operating temperature range	-5 to 50°C (with no freezing and condensation)
Lead wire with connector Note)		ø3.4 3-wire 25AWG 2 m
(Option: L)		With connector cover
Weihgt		Approx.14 g (body only), Approx.38 g (including lead wire with connector)
Standard		CE/UKCA marking, UL, CSA

Note) For details about the wiring, refer to the Operation Manual at SMC website (http://www.smcworld.com).





Prevents careless knob operation.





Lock (supplied by customers)

		AC-A
Part no.	Applicable model	
AR20P-580AS	AC20□, AR20(K), AW20(K), AWM20, AWD20	AF-A
AR25P-580AS	AC25□, AR25(K)	AF□-A
AR30P-580AS	AC30□, AR30(K), AW3(K), AWM30, AWD30	AR-A
AR40P-580AS	AC40□(-06), AR40(K)(-06), AW40(K)(-06), AWM40, AWD40	AL-A
	AWD40	AW-A

AF-A
AF-A
AR-A
AL-A
AW-A
AC-B
AF-A
AF-A
AR:₿
AL-A
AW₽
AW□
A□G
E
AV
AF