

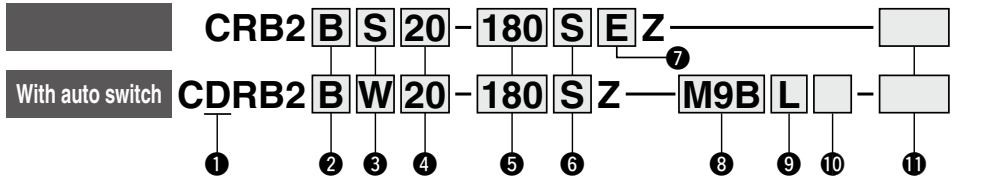
# Rotary Actuator Vane Type

RoHS

## CRB2 Series

Size: 10, 15, 20, 30, 40

### How to Order



#### 1 With auto switch

(With auto switch unit and built-in magnet)  
\* Refer to page 159 when the auto switch unit is needed separately.

#### 2 Mounting

Symbol	Mounting
B	Basic type
F*	Flange type

\* F: Except size 40

#### 3 Shaft type

Symbol	Shaft type	Shaft-end shape	
		Long shaft	Short shaft
S	Single shaft	Single flat*	—
W	Double shaft	Single flat*	Single flat
J**	Double shaft	Round shaft	Single flat
K**	Double shaft	Round shaft	Round shaft
T**	Single shaft	Round shaft	—
Y**	Double shaft	Single flat*	Long shaft with single flat*

\* A key is used for size 40. \*\* J, K, T and Y are made to order.

\*\*\* When an auto switch is mounted to the rotary actuator, only shaft types W and J are available.

#### 4 Size

10
15
20
30
40

#### 9 Electrical entry/Lead wire length

Nil	Grommet/Lead wire: 0.5 m
M	Grommet/Lead wire: 1 m
L	Grommet/Lead wire: 3 m
CN	Connector/Without lead wire
C	Connector/Lead wire: 0.5 m
CL	Connector/Lead wire: 3 m

\* Connectors are available only for the R73, R80, T79.

\*\* Lead wire with connector part nos.

D-LC05: Lead wire 0.5 m

D-LC30: Lead wire 3 m

D-LC50: Lead wire 5 m

#### 5 Rotating angle

Single vane	90	90°
	180	180°
Double vane	270	270°
	100	100°

#### 6 Vane type

S	Single vane
D	Double vane

#### 7 Connecting port location

Nil	Side ported
E	Axial ported

#### 8 Auto switch

Nil	Without auto switch (Built-in magnet)
M	Without M9 type auto switch (Built-in magnet)

\* For applicable auto switch model, refer to the table below.

\*\* The operating range and hysteresis of the D-M9□ are different from those of the other auto switches. For details, refer to page 162.

#### 10 Number of auto switches

S	1 pc.*
Nil	2 pcs.**

\* S: A right-hand auto switch is shipped.

\*\* Nil: A right-hand switch and a left-hand switch are shipped.

#### 11 Made to Order

For details, refer to the next page.

### Applicable Auto Switches/Refer to pages 929 to 983 for further information on auto switches.

Applicable size	Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire type	Lead wire length [m]					Pre-wired connector	Applicable load
						DC	AC	Perpendicular	In-line		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)		
For 10, 15	Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	●	—	○	IC circuit
					3-wire (PNP)			M9PV	M9P		●	●	●	—	○		
					2-wire			M9BV	M9B		●	●	●	—	○		
	Reed auto switch	—	Grommet	No	3-wire (NPN)	5 V, 12 V	—	S99V	S99	Vinyl parallel cord	●	—	—	—	○	IC circuit	
					3-wire (PNP)			S9PV	S9P		●	—	—	—	○		
					2-wire			T99V	T99		●	—	—	—	○		
For 20, 30, 40	Solid state auto switch	—	Grommet	Yes	5 V, 12 V	5 V, 12 V, 24 V	—	90A	Oilproof heavy-duty cord	●	—	—	—	—	○	IC circuit	
					5 V, 12 V, 100 V			90A		●	—	—	—	○			
					100 V			97		●	—	—	—	○			
	Reed auto switch	—	Grommet	No	2-wire	24 V or less	—	93A	Vinyl parallel cord	●	—	—	—	—	○	IC circuit	
					—			93A		●	—	—	—	○			
					—			T79C		●	—	—	—	○			
For 20, 30, 40	Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	—	○	IC circuit	
					3-wire (PNP)			M9PV	M9P		●	●	●	—	○		
					2-wire			M9BV	M9B		●	●	●	—	○		
	Reed auto switch	—	Connector	Yes	3-wire (NPN)	5 V, 12 V	—	S79	Oilproof heavy-duty cord	●	—	—	—	○	IC circuit		
					3-wire (PNP)			S7P		●	—	—	—	○			
					2-wire			T79C		●	—	—	—	○			
Reed auto switch	—	Grommet	Yes	2-wire	48 V, 100 V	100 V	R73	Oilproof heavy-duty cord	●	—	—	—	—	○	IC circuit		
				—			R73C		●	—	—	—	○				
				—			R80C		●	—	—	—	○				

\* Lead wire length symbols: 0.5 m.....Nil (Example) R73C

3 m..... L (Example) R73CL

5 m..... Z (Example) R73CZ

None..... N (Example) R73CN

\* Auto switches are shipped together, (but not assembled).

\* Solid state auto switches marked with "O" are produced upon receipt of order.

# Rotary Actuator With Angle Adjuster/Vane Type

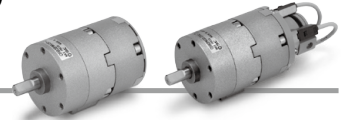
RoHS

## CRB2□WU Series

### Size: 10, 15, 20, 30, 40

Specifications, rotation range, inner volume, and effective output are the same as those of the standard type. (→ p. 113, 114)

#### How to Order



CRB2 **B** **W** **U** **20** - **180** **S** **Z** -

With auto switch

CDRB2 **B** **W** **U** **20** - **180** **S** **Z** - **M9B** **L** -

1

2

3

4

5

6

7

8

9

10

11

#### 1 With auto switch

(With auto switch unit and built-in magnet)

\* Refer to page 159 when the auto switch unit is needed separately.

#### 2 Mounting

Symbol	Mounting
<b>B</b>	Basic type
<b>F</b>	Flange type

\* F: Except size 40

#### 3 Shaft type

Symbol	Shaft-end shape
<b>W</b>	Single flat*
<b>J</b> **	Round shaft

\* A key is used for size 40.

\*\* J is made to order.

#### 4 With angle adjuster unit

\* Refer to page 159 when the angle adjuster unit is needed separately.

#### 5 Size

10
15
20
30
40

#### 6 Rotating angle

Single vane	90	90°
	180	180°
	270	270°
Double vane	90	90°
	100	100°

#### 7 Vane type

<b>S</b>	Single vane
<b>D</b>	Double vane

#### 8 Auto switch

<b>Nil</b>	Without auto switch (Built-in magnet)
<b>M</b>	Without M9 type auto switch (Built-in magnet)

\* For applicable auto switch model, refer to the table below.

\*\* The operating range and hysteresis of the D-M9□ are different from those of the other auto switches. For details, refer to page 162.

#### 9 Electrical entry/Lead wire length

<b>Nil</b>	Grommet/Lead wire: 0.5 m
<b>M</b>	Grommet/Lead wire: 1 m
<b>L</b>	Grommet/Lead wire: 3 m
<b>CN</b>	Connector/Without lead wire
<b>C</b>	Connector/Lead wire: 0.5 m
<b>CL</b>	Connector/Lead wire: 3 m

\* Connectors are available only for the R73, R80, T79.

\*\* Lead wire with connector part nos.  
D-LC05: Lead wire 0.5 m  
D-LC30: Lead wire 3 m  
D-LC50: Lead wire 5 m

Refer to pages 162 to 166 for actuators with auto switches.

- Operating range and hysteresis
- How to change the auto switch detecting position
- Auto switch mounting
- Auto switch adjustment

#### 10 Number of auto switches

<b>S</b>	1 pc.*
<b>Nil</b>	2 pcs.**

\* S: A right-hand auto switch is shipped.

\*\* Nil: A right-hand switch and a left-hand switch are shipped.

#### 11 Made to Order

For details, refer to the table below.

#### Applicable Auto Switches/Refer to pages 929 to 983 for further information on auto switches.

Applicable size	Type	Special function	Electrical entry	Indicator/light	Wiring (Output)	Load voltage		Auto switch model		Lead wire type	Lead wire length (m)					Pre-wired connector	Applicable load	
						DC	AC	Perpendicular	In-line		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (Nil)			
For 10, 15	Solid state auto switch	—	Grommet	Yes	3-wire (NPV)	24V	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	●	○	IC circuit	Relay, PLC
					3-wire (PVP)				M9PV	M9P		●	●	●	●	○		
					2-wire				M9BV	M9B		●	●	●	●	○		
					3-wire (NPV)				S9BV	S9B		●	●	●	●	○		
					3-wire (PVP)				S9PV	S9P		●	●	●	●	○		
	2-wire	T99V	T99	●	●	●	●	○										
	Reed auto switch	—	Grommet	No	2-wire	5 V, 12 V	5 V, 12 V, 24 V	90	Vinyl parallel cord	●	●	●	●	○	IC circuit	Relay, PLC		
						5 V, 12, 100 V	5 V, 12 V, 24 V, 100 V	90A	Oilproof heavy-duty cord	●	●	●	●	○				
						100 V	97	Vinyl parallel cord	●	●	●	●	○					
						93A	Oilproof heavy-duty cord	●	●	●	●	○						
—						—	—	—	—	—	—	—						
For 20, 30, 40	Solid state auto switch	—	Grommet	Yes	3-wire (NPV)	24V	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	●	○	IC circuit	Relay, PLC
					3-wire (PVP)				M9PV	M9P		●	●	●	●	○		
					2-wire				M9BV	M9B		●	●	●	●	○		
					3-wire (NPV)				S79	●		●	●	●	○			
					3-wire (PVP)				S7P	●		●	●	●	○			
	2-wire	T79	●	●	●	●	○											
	Reed auto switch	—	Grommet	Yes	2-wire	12 V	T79C	●	●	●	●	○	IC circuit	Relay, PLC				
						100 V	R73	●	●	●	●	○						
						48 V, 100 V	R73C	●	●	●	●	○						
						24 V or less	R80	●	●	●	●	○						
—						R80C	●	●	●	●	○							

\* Lead wire length symbols: 0.5 m ..... Nil (Example) R73C  
3 m ..... L (Example) R73CL  
5 m ..... Z (Example) R73CZ  
None ..... N (Example) R73CN

\* Auto switches are shipped together, (but not assembled).  
\* Solid state auto switches marked with "○" are produced upon receipt of order.



#### Made to Order

(For details, refer to pages 144 to 158.)

Symbol	Description	Applicable shaft type
<b>XA1 to XA24</b>	Shaft type pattern I	W
<b>XA31 to XA58</b>	Shaft type pattern II	J
<b>XC1</b>	Add connecting ports	W, J
<b>XC2</b>	Change threaded hole to through-hole	W, J
<b>XC3</b>	Change the screw position	W, J
<b>XC4</b>	Change the rotation range	W, J
<b>XC5</b>	Change rotation range between 0 and 200°	W, J
<b>XC6</b>	Change rotation range between 0 and 110°	W, J
<b>XC7</b>	Reversed shaft	W, J
<b>XC30</b>	Fluorine grease	W, J
<b>X5</b>	For M5 port (90°/180°)	W, J

The above may not be selected when the product comes with an auto switch or angle adjuster unit. For details, refer to pages 144, 145, 150, 151, 156.

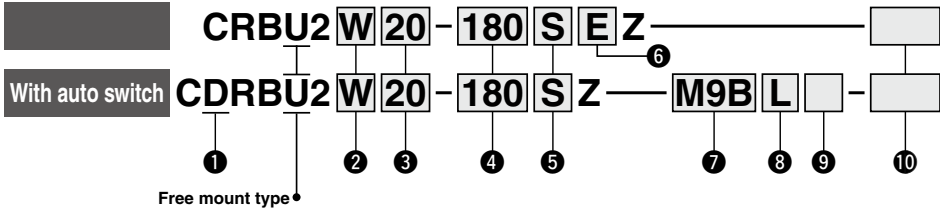
# Free Mount Type Rotary Actuator Vane Type

RoHS

## CRBU2 Series

Size: 10, 15, 20, 30, 40

### How to Order



#### 1 With auto switch

(With auto switch unit and built-in magnet)

\* Refer to page 159 when the auto switch unit is needed separately.

#### 2 Shaft type

Symbol	Shaft type	Shaft-end shape	
		Long shaft	Short shaft
<b>S</b>	Single shaft	Single flat*	—
<b>W</b>	Double shaft	Single flat*	Single flat
<b>J**</b>	Double shaft	Round shaft	Single flat
<b>K**</b>	Double shaft	Round shaft	Round shaft
<b>T**</b>	Single shaft	Round shaft	—
<b>Y**</b>	Double shaft	Single flat*	Long shaft with single flat*

\* A key is used for size 40.

\*\* J, K, T and Y are made to order.

\*\*\* When an auto switch is mounted to the rotary actuator, only shaft types W and J are available.

#### 3 Size

<b>10</b>
<b>15</b>
<b>20</b>
<b>30</b>
<b>40</b>

#### 4 Rotating angle

Single vane	<b>90</b>	<b>90°</b>
	<b>180</b>	<b>180°</b>
	<b>270</b>	<b>270°</b>
Double vane	<b>90</b>	<b>90°</b>
	<b>100</b>	<b>100°</b>

#### 5 Vane type

<b>S</b>	Single vane
<b>D</b>	Double vane

#### 7 Auto switch

<b>Nil</b>	Without auto switch (Built-in magnet)
<b>M</b>	With M9 type auto switch (Built-in magnet)

\* For applicable auto switch model, refer to the table below.

#### 6 Connecting port location

<b>Nil</b>	Side ported
<b>E</b>	Axial ported

#### 8 Electrical entry/Lead wire length

<b>Nil</b>	Grommet/Lead wire: 0.5 m
<b>M</b>	Grommet/Lead wire: 1 m
<b>L</b>	Grommet/Lead wire: 3 m
<b>CN</b>	Connector/Without lead wire
<b>C</b>	Connector/Lead wire: 0.5 m
<b>CL</b>	Connector/Lead wire: 3 m

\* Connectors are available only for the R73, R80, T79.

\*\* Lead wire with connector part nos.

D-LC05: Lead wire 0.5 m

D-LC30: Lead wire 3 m

D-LC50: Lead wire 5 m

#### 9 Number of auto switches

<b>S</b>	1 pc.*
<b>Nil</b>	2 pcs.**

\* S: A right-hand auto switch is shipped.

\*\* Nil: A right-hand switch and a left-hand switch are shipped.

\*\*\* The operating range and hysteresis of the D-M9□ are different from those of the other auto switches. For details, refer to page 162.

#### 10 Made to Order

For details, refer to the next page.

### Applicable Auto Switches/Refer to pages 929 to 983 for further information on auto switches.

Applicable size	Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire type	Lead wire length [m]					Pre-wired connector	Applicable load			
						DC	AC	Perpendicular	In-line		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)					
For 10, 15	Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	○	○	IC circuit	Relay, PLC		
					3-wire (PNP)				M9PV	M9P		●	●	○	—	○			—	
					2-wire				M9BV	M9B		●	●	○	—	○				
	3-wire (NPN)	S99V	S99	●	—	○	—	○	IC circuit											
	3-wire (PNP)	S9PV	S9P	●	—	○	—	○												
	2-wire	T99V	T99	●	—	○	—	○												
For 10, 15	Reed auto switch	—	Grommet	No	2-wire	5 V, 12 V	5 V, 12 V, 24 V	—	90A	Vinyl parallel cord	●	—	●	●	—	○	IC circuit			
					Yes	2-wire	5 V, 12 V, 100 V	5 V, 12 V, 24 V, 100 V	—	90A	Oilproof heavy-duty cord	●	—	●	●	—		○		
							—	100 V	—	97	Vinyl parallel cord	●	—	●	●	—		—		
	For 20, 30, 40	Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	○	○	IC circuit	Relay, PLC	
						3-wire (PNP)				M9PV	M9P		●	●	○	—	○			—
						2-wire				M9BV	M9B		●	●	○	—	○			
3-wire (NPN)		S79	Oilproof heavy-duty cord	●	—	○	—	○	IC circuit											
3-wire (PNP)		S7P		●	—	○	—	○												
2-wire		T79		●	—	○	—	○												
For 20, 30, 40	Reed auto switch	—	Grommet	Yes	2-wire	24 V	—	100 V	R73	Oilproof heavy-duty cord	●	—	●	●	—	—				
									—		R73C	●	—	●	●	—	—			
									48 V, 100 V		100 V	R80	●	—	○	—	—			
	For 20, 30, 40	Reed auto switch	—	Connector	No	2-wire	24 V	—	24 V or less	R80C	Oilproof heavy-duty cord	●	—	●	●	—	IC circuit			

\* Lead wire length symbols: 0.5 m.....Nil (Example) R73C  
3 m.....L (Example) R73CL  
5 m.....Z (Example) R73CZ  
None.....N (Example) R73CN

\* Auto switches are shipped together, (but not assembled).

\* Solid state auto switches marked with "○" are produced upon receipt of order.

# Free Mount Type Rotary Actuator With Angle Adjuster/Vane Type

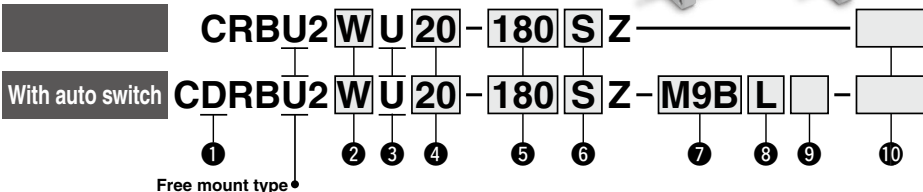
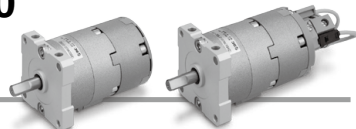
RoHS

## CRBU2WU Series

Size: 10, 15, 20, 30, 40

Specifications, rotation range, inner volume, and effective output are the same as those of the standard type.(→ p. 129, 130)

### How to Order



#### 1 With auto switch

(With auto switch unit and built-in magnet)  
\* Refer to page 159 when the auto switch unit is needed separately.

#### 2 Shaft type

Symbol	Shaft-end shape
W	Single flat*
J**	Round shaft

\* A key is used for size 40.  
\*\* J is made to order.

#### 3 With angle adjuster unit

\* Refer to page 159 when the angle adjuster unit is needed separately.

#### 4 Size

10
15
20
30
40

#### 5 Rotating angle

Single vane	90	90°
	180	180°
	270	270°
Double vane	90	90°
	100	100°

#### 6 Vane type

S	Single vane
D	Double vane

#### 9 Number of auto switches

S	1 pc.*
Nil	2 pcs.**

\* S: A right-hand auto switch is shipped.  
\*\* Nil: A right-hand switch and a left-hand switch are shipped.

#### 7 Auto switch

Nil	Without auto switch (Built-in magnet)
M	Without M9 type auto switch (Built-in magnet)

\* For applicable auto switch model, refer to the table below.  
\*\* The operating range and hysteresis of the D-M9□ are different from those of the other auto switches. For details, refer to page 162.

#### 8 Electrical entry/Lead wire length

Nil	Grommet/Lead wire: 0.5 m
M	Grommet/Lead wire: 1 m
L	Grommet/Lead wire: 3 m
CN	Connector/Without lead wire
C	Connector/Lead wire: 0.5 m
CL	Connector/Lead wire: 3 m

\* Connectors are available only for the R73, R80, T79.  
\*\* Lead wire with connector part nos.  
D-LC05: Lead wire 0.5 m  
D-LC30: Lead wire 3 m  
D-LC50: Lead wire 5 m

#### 10 Made to Order

For details, refer to the table below.

Refer to pages 162 to 166 for actuators with auto switches.

- Operating range and hysteresis
- How to change the auto switch detecting position
- Auto switch mounting
- Auto switch adjustment



#### Made to Order

(For details, refer to pages 144 to 158.)

### Applicable Auto Switches/Refer to pages 929 to 983 for further information on auto switches.

Applicable size	Type	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire type	Lead wire length [m]					Pre-wired connector	Applicable load
					DC	AC	Perpendicular	In-line		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (Nil)		
For 10, 15	Solid state auto switch	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	●	○	○	IC circuit
				3-wire (PNP)	12 V	—	M9PV	M9P		●	●	●	●	○	○	
				2-wire	5 V, 12 V	—	M9BV	M9B		●	●	●	●	○	○	
	Reed auto switch	Grommet	No	3-wire (NPN)	5 V, 12 V	—	S9NV	S9N	Vinyl parallel cord	●	●	●	●	○	○	IC circuit
				3-wire (PNP)	12 V	—	S9PV	S9P		●	●	●	●	○	○	
				2-wire	5 V, 12 V	—	T9NV	T9N		●	●	●	●	○	○	
For 20, 30, 40	Solid state auto switch	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	●	○	○	IC circuit
				3-wire (PNP)	12 V	—	M9PV	M9P		●	●	●	●	○	○	
				2-wire	5 V, 12 V	—	M9BV	M9B		●	●	●	●	○	○	
				3-wire (NPN)	5 V, 12 V	—	S9NV	S9N		●	●	●	●	○	○	
				3-wire (PNP)	12 V	—	S9PV	S9P		●	●	●	●	○	○	
				2-wire	5 V, 12 V	—	T9NV	T9N		●	●	●	●	○	○	
	Reed auto switch	Grommet	No	2-wire	5 V, 12 V	—	90A	—	Vinyl parallel cord	●	●	●	●	○	○	IC circuit
				—	5 V, 12 V	—	97	—		●	●	●	●	○	○	
				—	100 V	—	93A	—		●	●	●	●	○	○	
				—	—	—	99	—		●	●	●	●	○	○	
				—	—	—	90A	—		●	●	●	●	○	○	
				—	—	—	97	—		●	●	●	●	○	○	
	Solid state auto switch	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	●	○	○	IC circuit
				3-wire (PNP)	12 V	—	M9PV	M9P		●	●	●	●	○	○	
				2-wire	5 V, 12 V	—	M9BV	M9B		●	●	●	●	○	○	
				3-wire (NPN)	5 V, 12 V	—	S9NV	S9N		●	●	●	●	○	○	
				3-wire (PNP)	12 V	—	S9PV	S9P		●	●	●	●	○	○	
				2-wire	5 V, 12 V	—	T9NV	T9N		●	●	●	●	○	○	
	Reed auto switch	Grommet	No	2-wire	5 V, 12 V	—	90A	—	Vinyl parallel cord	●	●	●	●	○	○	IC circuit
				—	5 V, 12 V	—	97	—		●	●	●	●	○	○	
				—	100 V	—	93A	—		●	●	●	●	○	○	
				—	—	—	99	—		●	●	●	●	○	○	
				—	—	—	90A	—		●	●	●	●	○	○	
				—	—	—	97	—		●	●	●	●	○	○	

\* Lead wire length symbols: 0.5 m ..... Nil (Example) R73C  
3 m ..... L (Example) R73CL  
5 m ..... Z (Example) R73CZ  
None ..... N (Example) R73CN

\* Auto switches are shipped together, (but not assembled).  
\* Solid state auto switches marked with "○" are produced upon receipt of order.

The above may not be selected when the product comes with an auto switch or angle adjuster unit. For details, refer to pages 144, 145, 150, 151, 156.